

TECHNICAL MEMORANDUM

May 18, 2025

Project# 29019

To: Jason White, BKF Engineers

From: Joey Bansen, P.E.

RE: McMinnville Third Street Improvement Project

Street Lighting Assessment Memorandum

This technical memorandum summarizes the street lighting assessment completed during the 30% design phase of the *Third Street Improvement Project*. The intent of the assessment is to:

- Define the project's intended outcomes for lighting within the public right-of-way;
- Develop a preliminary design concept and options to be coordinated with the overall streetscape improvements; and
- Summarize other considerations that should be tracked as the project moves forward in the design development process.

INTRODUCTION

Project Background

The *Third Street Improvement Project* is a nine-block street improvement and urban revitalization project on NE 3rd Street, McMinnville's downtown "main street", from NE Adams Street to NE Johnson Street. The project includes street and sidewalk reconstruction, underground utility and infrastructure improvements, above-ground street furnishings, and landscaping. The City of McMinnville has been planning for this project from as early as 2000, and has been working on the vision, goals, objectives, and a concept block design for the past several years in a comprehensive public process.

The concept design phase completed in 2022 set a preferred vision and functional design that keeps the existing two-lane street (single lane in each direction) and creates a "Person-Centered Main Street" by:

- Installing large curb extensions that create flexible areas for seating, art, planting, and dining spaces;
- Installing larger sidewalks providing more room for pedestrians and commerce;
- Implementing a balanced design equally serving both sides of the street; and
- Implementing narrower lanes, curb extensions, and on-street parking to calm traffic speeds.

Following the 15% design phase, the design was updated to incorporate a "festival street" concept with flush curbs delineating the roadway and sidewalk/pedestrian areas. The 30% design includes Portland

Cement concrete (PCC) for the vehicle lanes and parking areas, and a mix of PCC and pavers for the sidewalk and curb extension areas.

Scope of Lighting Assessment

The scope of the street lighting assessment for the *Third Street Improvement Project* includes the NE 3rd Street corridor between NE Adams Street and NE Johnson St. This technical memorandum includes the following:

- Summary of existing and proposed street lighting poles and luminaires.
- Options for Dark Sky compliant luminaires for City consideration.
- Target lighting levels for street segments, intersections, sidewalks, and pedestrian crossings.
- Preliminary lighting layout and analysis to meet lighting levels and streetscape design objectives.
- Options for alternative lighting layouts to reduce number of poles or address other project constraints.
- Recommendations for project lighting and other considerations for implementation during the project design development.

STREET LIGHTING POLES AND LUMINAIRES

Street lights in McMinnville are generally powered and maintained by McMinnville Water & Light (MWL), which is a municipal utility responsible for providing water and electric service for the City of McMinnville. MWL maintains the existing street light poles and luminaires on NE 3rd Street and the surrounding Downtown area. MWL maintains a *Street Lighting Design Guide*, last updated in September 2024, serving as the basis for design of lighting for streets within the MWL service district.

Existing Poles and Luminaires

There are two types of existing decorative poles and luminaires on NE 3rd Street within the project area and within the broader Downtown McMinnville, referred to in this memo as "*pendant style*" and "*post-top acorn style*". The existing installations generally include pendant style lights at intersections and some mid-block locations, while the post-top acorn style lights are generally installed only at the mid-block crosswalk locations along NE 3rd Street. The signal poles at NE Baker Street, NE Davis Street, and NE Ford Street include roadway luminaires over NE 3rd Street. The existing light pole layout and spacing is not consistent along the NE 3rd Street corridor, with poles generally in a "staggered" pattern, alternating sides of the street along the blocks. There are generally 4-6 existing street lights per block.

Existing poles generally include double banner arms on the sidewalk side of the poles as well as ground fault circuit interrupter (GFI) power outlets. The GFI outlets are used by the McMinnville Downtown Association for powering string lights hung from the street trees as well as for supplying power for special events along NE 3rd Street.

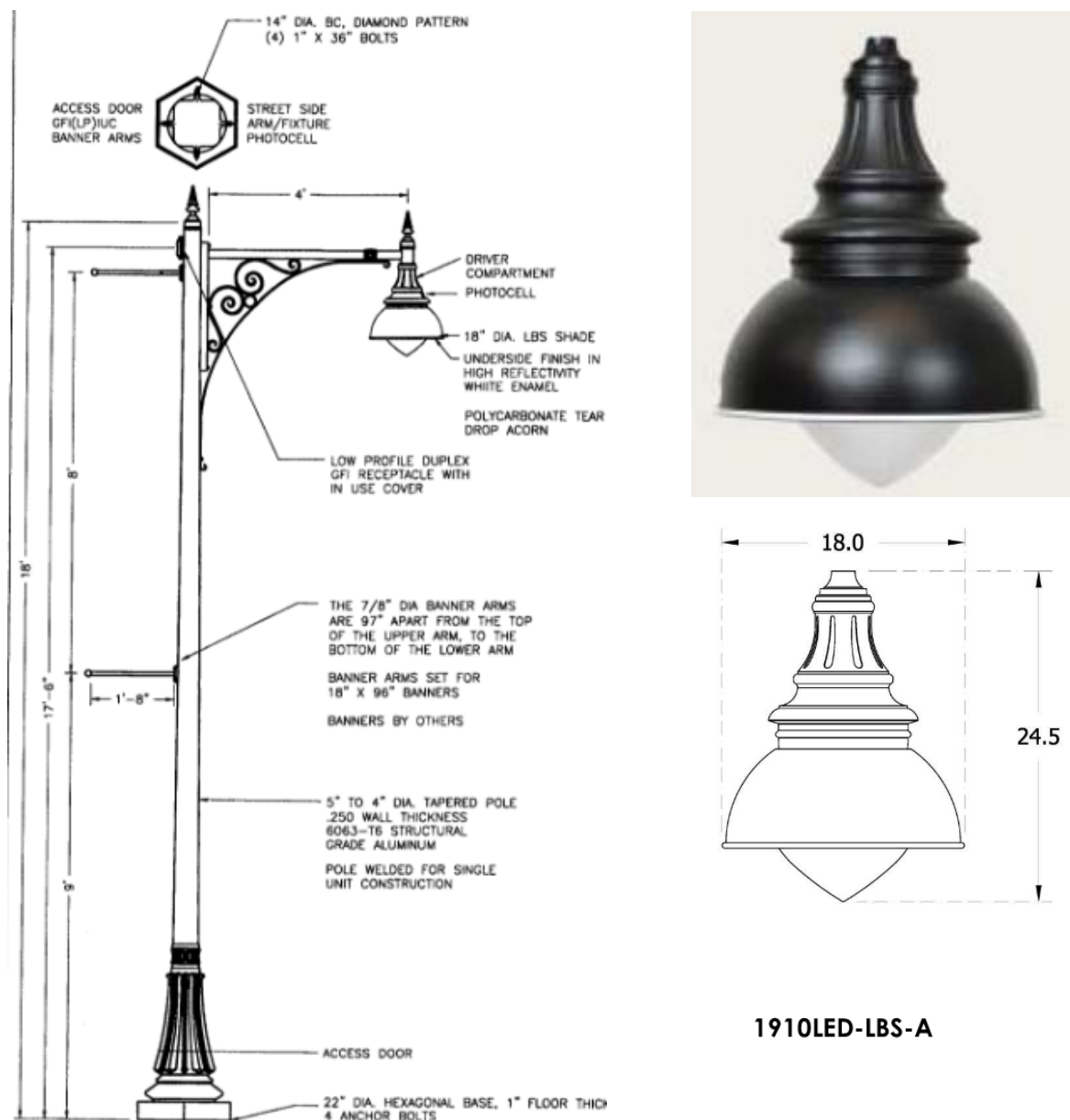
PENDANT STYLE

The "pendant style" lights consist of 18-ft tall aluminum poles with decorative bases and 4-ft decorative arms. The existing pendant luminaire is a decorative LED light with round shade and teardrop lens. The existing poles and luminaires are supplied by Sternberg as the following models:

- Pole: Sternberg 5400 "Hamilton Series" Roadway Pole
- Decorative Arm: Sternberg 1910 "Lake Bluff Series" Model SMA
- Luminaire: Sternberg "Lake Bluff Series" Model 1910LED-LBS

The height of the pole and mounting position of the luminaire results in an approximate 16-ft mounting height above the roadway and sidewalk. The existing pendant style pole and luminaire are shown in Figure 1 below.

Figure 1 Existing Pendant Style Light



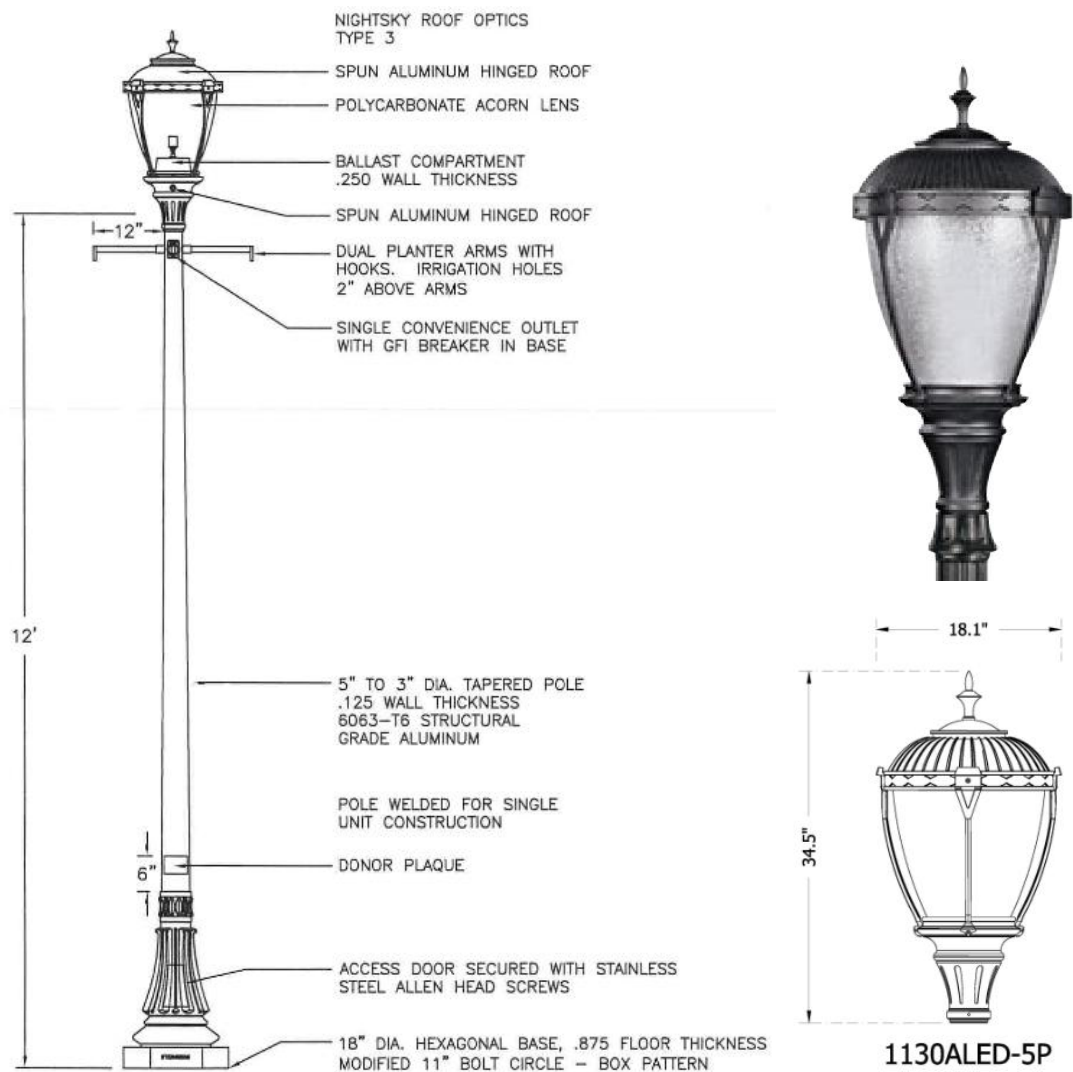
POST-TOP ACORN STYLE

The "post-top acorn style" lights consist of 12-ft tall aluminum poles with decorative bases. The luminaires consist of decorative LED post-top mounted "acorn" lights. The existing poles and luminaires are supplied by Sternberg as the following models:

- Pole: Sternberg 3400 "Georgetown Series" Ornamental Pole
- Luminaire: Sternberg "Ripon Series" Model 1130ALED

The height of the pole and mounting position of the luminaire results in an approximate 13-ft mounting height above the roadway and sidewalk. The existing post-top acorn style pole and luminaire are shown in Figure 2 below.

Figure 2 Existing Post-Top Acorn Style Light



Product cut sheets for the existing poles and luminaires are included in Appendix "A".

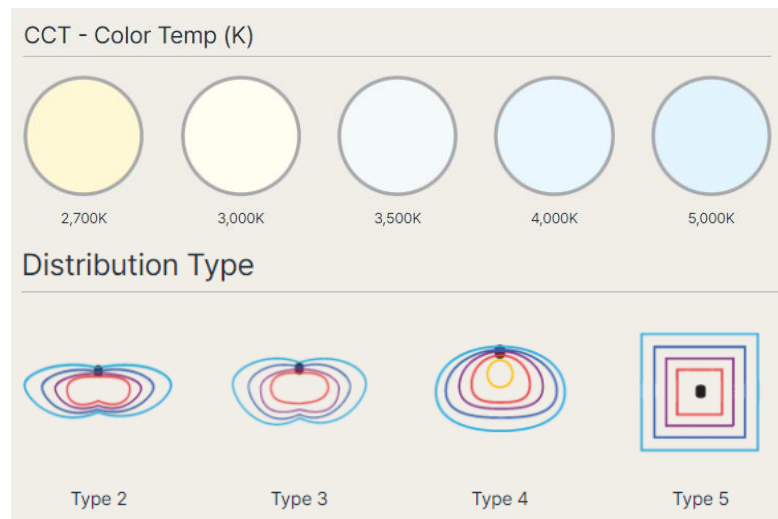
Proposed Poles and Luminaires

The concept design phase completed in 2022 set the stage for the current preliminary design phase of the Third Street Improvement Project. The concept design identified the preferred design theme as “historic”, with a desire to keep a similar look and feel to the existing street furnishings and street lights.

Coordination with the City of McMinnville during the 15%-30% design phase indicated the desire to continue using the same poles and luminaires as existing, in order to maintain consistency with the rest of downtown and other projects. The recently constructed Three Mile Lane bridge replacement installed the same pendant style poles and luminaires on the bridge in anticipation that the design theme would be continued onto NE 3rd Street with the *Third Street Improvement Project*.

Photometric information for the proposed luminaires was obtained from the manufacturer. Luminaires with 3500K or less color temperature are proposed for the project in order to maintain a “softer” lighting temperature closer to historic high-pressure sodium (HPS) or other traditional lighting sources. A Type 3 lighting distribution pattern was selected for the luminaires based on what is currently used; however, other patterns can be evaluated as the design and light pole layout is optimized. The range of color temperatures and lighting distribution patterns available for most luminaires are shown in Figure 3.

Figure 3 Luminaire Color Temperature and Lighting Distribution Options



Source: <https://www.sternberglighting.com/>

PENDANT STYLE

This street lighting assessment used the existing pendant style poles and luminaires presented above and shown in Figure 1 for the initial lighting layout and photometric analysis. The luminaire is as follows:

- Sternberg 1910LED-LBS-1L-35-T3
 - 3,500K color temperature
 - Type 3 lighting distribution pattern
 - Wattage:
 - 36-watt, 4,025 initial lumen output (railroad crossing intersection) – dimmed to 75% output

- 69-watt, 7,285 initial lumen output (unsignalized intersections) – dimmed to 75% output

POST-TOP ACORN STYLE

The street lighting assessment used the existing post-top acorn style poles and luminaires presented above and shown in Figure 2 for the initial lighting layout and photometric analysis. The luminaire is as follows:

- Sternberg 1130ALED-5P-12L-35-T3-MDL014
 - 3,500K color temperature
 - Type 3 lighting distribution pattern
 - Wattage: 47-watt, 3,730 initial lumen output – dimmed to 70% output

TRAFFIC SIGNAL POLES

The 30% design concept includes the expectation that the intersections of NE 3rd Street with NE Baker Street, NE Davis Street, and NE Ford Street will remain signalized, and the signal poles and equipment would be rebuilt and modernized with the *Third Street Improvement Project*. Signal mast arm poles would be supplied with decorative bases and decorative luminaire arms to provide a look similar to the pendant style lights. The assumed mounting height of the luminaire is 25-ft with a 6-ft decorative arm. An example of the style of pole is the recently installed signal at NE 5th Street & NE Evans Street, shown in Figure 4 below. The luminaire is as follows:

- Sternberg 1910LED-LBS-1L-35-T3-MDL16-A
 - 3,500K color temperature
 - Type 3 lighting distribution pattern
 - Wattage: 93-watt, 9,210 initial lumen output – dimming varies depending on target light levels

Figure 4 Example Decorative Traffic Signal Pole and Pendant Luminaire



LIGHTED BOLLARDS

Options for including metal bollards with integrated LED lighting was evaluated. The purpose of the bollards are to provide low-level lighting targeted at the pedestrian crossings and mid-block curb extension areas where the taller pendant style or post-top acorn style lights may not be feasible or desirable due to tree spacing or other urban design constraints. The lighted bollards would allow the project to meet the lighting requirements at the midblock pedestrian crossings without installing additional taller light poles. Several options for lighted bollards are provided in Table 1 below as examples; however, there are many others that can be considered as the design moved forward.

The bollard used in the lighting assessment due to the photometric performance is as follows:

- Holophane Wadsworth LED Series – WDBOLED-CA-P40-30K-NI05
 - 3,000K color temperature
 - Type 5 lighting distribution pattern
 - Wattage: 29-watt, 2,147 initial lumen output

Manufacturer specification sheets for the lighted bollards are included in Appendix "B".

Table 1 Lighted Bollard Options

Manufacturer/Model	Image (note: all to be painted black)	Considerations
Sternberg 3401LED Georgetown Series		- Same manufacturer and look as the other proposed Sternberg light poles. Consistent urban design aesthetic. - Lower lumen output than required (590 lumens max output). Would require 4 bollards per midblock crossing. - May not achieve desired target light levels for midblock crossings and sidewalks. - Note: Sternberg has indicated that bollards may be modified to increase light output, up to approximately 2,500 lumens. Photometry information was not available at the 30% milestone.

Manufacturer/Model	Image (note: all to be painted black)	Considerations
Sternberg 4555LED Parkside Series		– Same manufacturer as the other proposed Sternberg light poles. – The Project's Public Advisory Committee (PAC) indicated a desire for more "simple" bollards similar to those used on Main Street in Carlton. – Lower lumen output than required (590 lumens max output). Would require 4 bollards per midblock crossing. – May not achieve desired target light levels for midblock crossings and sidewalks. – Note: Sternberg has indicated that bollards may be modified to increase light output, up to approximately 2,500 lumens. Photometry information was not available at the 30% milestone.
Holophane WDBOLED Wadsworth LED Series		– Similar look to the Sternberg family of poles, with slight differences. – Higher lumen outputs available (up to 2,147 lumens). Would allow for 2 bollards per midblock crossing. – More easily achieve desired target light levels for midblock crossings and sidewalks.
Visco Lighted Bollard BO-44L		– More contemporary look than the other bollard options. – Photometric performance still needs to be assessed.

Dark Sky Compliant Options

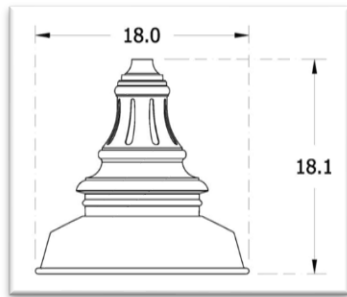
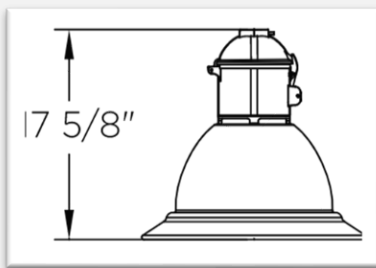
The concept design phase of the project identified the desire to include [Dark Sky](#) compliant luminaires in the project. Dark Sky compliant luminaires are those that do not project any light upward into the night sky (i.e. full cutoff or zero uplight), have reduced glare characteristics, and fall into the lower color temperature ranges. The existing/proposed luminaires presented above are not Dark Sky compliant because the shape of the shades and lenses diffuse light out and up from the luminaire.

Further coordination with the City during the 15% and 30% design stage indicated that no specific City policy exists requiring Dark Sky compliant luminaires for public works projects. The surrounding areas in downtown and adjacent Three Mile Lane Bridge have recently implemented the proposed luminaires presented above. The lighting assessment and preliminary layout is based on using the existing poles and luminaires, with the intent that these will be implemented with the Project. However, several Dark Sky compliant options are presented in

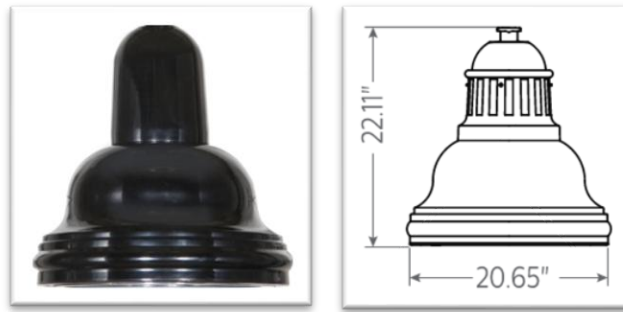
Table 2.

The Dark Sky compliant luminaires would need to be further evaluated for photometric performance to confirm their compatibility with the proposed light pole layout and the determine the specific lumen outputs needed to meet target lighting levels.

Table 2 Dark Sky Compliant Luminaire Options

Manufacturer/Model	Image	
Pendant Style Luminaires		
Sternberg 1910LED-RLM18-FL		
King K729 Aurora Jr. LED		

Hadco Westbrooke CXF14

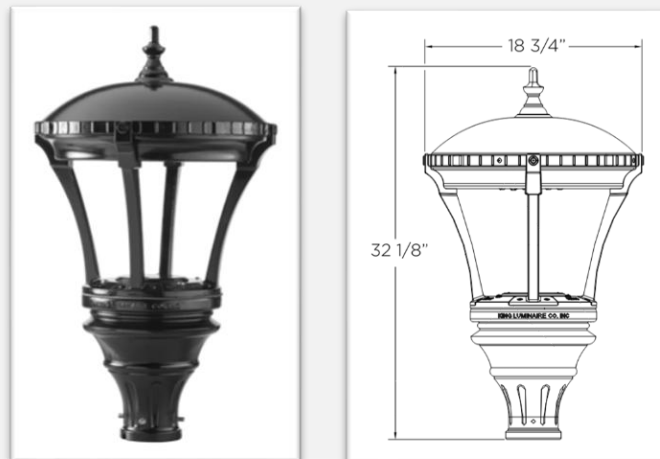


Post-Top Acorn Luminaires

Sternberg Euro E350LED



King K595 Aristocrat LED



King K137 Yarmouth LED

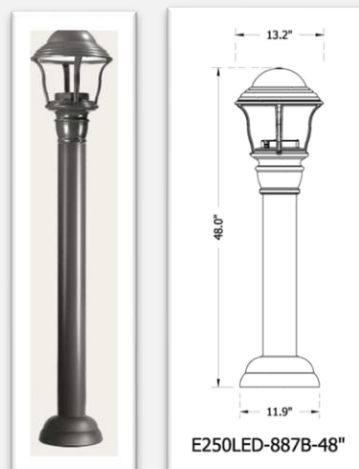


Holophane WFCL3 Utility Washington Series

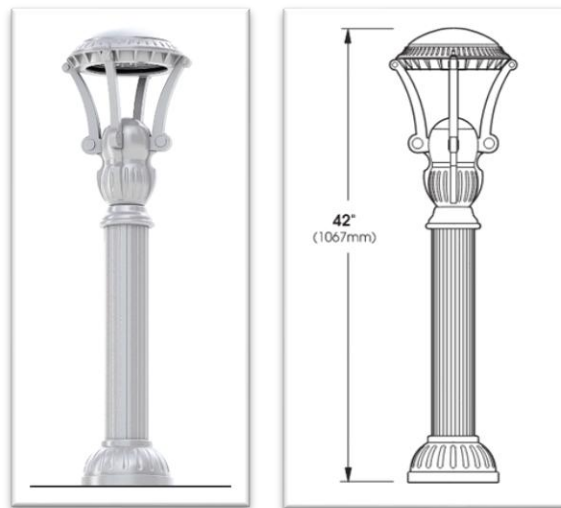


Lighted Bollards

Sternberg E250LED Euro Series Bollard



Sun Valley Lighting Mozart Bollard



Manufacturer specification sheets for the Dark Sky Compliant luminaires and bollards are included in Appendix "C".

LIGHTING ANALYSIS AND CONCEPT LAYOUT

Target Lighting Levels

The target lighting levels for the project were developed using guidance from the MWL *Street Lighting Design Guide* and the Illuminating Engineering Society (IES) *Recommended Practice: Lighting Roadway and Parking Facilities (ANSI/IES RP-8-22)*. The project area was broken into analysis areas that have different functions and safety considerations, and thus different lighting level considerations.

The target values for lighting are generally determined based on the street classifications, the expected nighttime pedestrian activity or conflict levels, and the pavement type. While NE 3rd Street is currently classified as a "Major Collector" street, the City has indicated that it will likely be downgraded to a "Local" classification with their upcoming Transportation System Plan (TSP) update. The TSP street classifications used in the lighting assessment are as follows:

- NE 3rd Street: Local
- NE Adams Street: Major Arterial
- NE Baker Street: Major Arterial
- NE Cows Street: Local
- NE Davis Street: Minor Collector
- NE Evans Street: Minor Collector
- NE Ford Street: Local
- NE Galloway Street: Local
- NE Irvine Street: Local
- NE Johnson Street: Minor Arterial (Major Street)

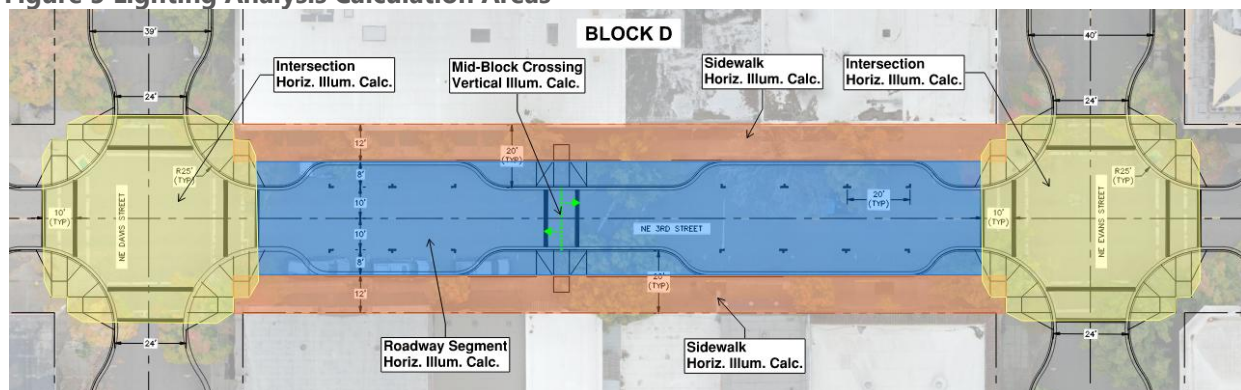
One objective of the project is to maintain and enhance the “downtown main street” environment on NE 3rd Street by improving the pedestrian realm. The existing traffic counts indicate a high level of pedestrian activity during the afternoon peak hour, with activity expected to extend into hours of darkness throughout the year. The City and the McMinnville Downtown Association also expressed a desire to significantly improve lighting levels from the existing levels. Thus, a pedestrian activity/conflict classification of “high” was used in setting the target light levels for the lighting assessment.

The *illuminance method* of roadway lighting design was used for this assessment. Illuminance determines the amount of light from the roadway lighting system that is incident on the roadway surface or on vertical surfaces. Because the amount of light seen by the driver is the portion that reflects from the pavement toward the driver, and because different pavements exhibit varied reflectance characteristics, different illuminance levels are needed for each type of standard roadway surface. The current design assumes that NE 3rd Street travel lanes and parking areas will be constructed using PCC and the sidewalks will also be constructed with PCC for the purposes of determining target light levels.

“Average horizontal illuminance” is the measure used for calculating light levels on the street segments, intersections, and sidewalks, while “average vertical illuminance” is used for calculating light levels at the mid-block pedestrian crossings. The ratio of the average-to-minimum illuminance levels is used as a measure to determine the “uniformity” of light within a given analysis area. Uniformity is used as a design measure to ensure the drivers eyes are not constantly adjusting to drastically different light levels as they travel along a roadway.

The lighting analysis calculation areas for a typical block are shown in Figure 5 and summarized below. Note that the MWL *Street Lighting Design Guide* does not have specific design or photometric requirements for sidewalk or crosswalk areas, and provides no set illuminance targets for “local” street classification. The MWL guide specifies that a light-loss depreciation factor of 0.78 shall be used for all LED systems, which was incorporated into the evaluation.

Figure 5 Lighting Analysis Calculation Areas



STREET SEGMENTS

Chapter 11 of *ANSI/IES RP-8-22* provides the lighting design criteria for streets based on street classification and pedestrian activity level classification. Based on a “local” street classification and a “high” pedestrian activity classification on a PCC street surface, the target average horizontal illuminance level for NE 3rd Street segments is 0.6 foot-candles with a 6:1 average-to-minimum uniformity ratio.

The street segment calculations are defined by the curb-to-curb width from intersection to intersection, including the travel lanes and parallel parking areas. The recommended light levels and uniformity levels for the street segments are summarized in Table 3 below.

INTERSECTIONS

Chapter 12 (Table 12-1) of *ANSI/IES RP-8-22* outlines the average horizontal illuminance levels for intersections based on the street classifications of the two intersecting streets as well as the pedestrian activity level classification, assuming a PCC roadway surface. Intersections are illuminated to a higher level than street segments because more vehicle-to-vehicle and vehicle-to-pedestrian conflict points exist at intersections. The recommended light levels and uniformity levels for the project intersections are summarized in Table 4 below.

The intersection calculation areas are defined by the outer limits of the pedestrian crossings on each leg and include the pedestrian ramp and landing areas in the sidewalks.

SIDEWALKS

Chapter 11 (Table 11-2) of *ANSI/IES RP-8-22* outlines the recommended lighting values for sidewalk areas. In order to provide flexibility in the design, we recommend that a range for the average horizontal illuminance between 0.5 – 0.9 foot-candles is used. This range represents a “medium” to “high” pedestrian activity area classification and is intended to allow flexibility in the design while avoiding over-lighting the street and intersection areas. We expect that additional light will reach the sidewalk areas from holiday/string lights in the trees and building façade lighting that is not modeled in our photometric evaluation. The recommended light levels and uniformity levels for the sidewalk areas are summarized in Table 5 below.

The sidewalk calculation areas are defined by the front of sidewalk to the back of sidewalk (right-of-way line) for each block face.

Note that *ANSI/IES RP-8-22* recommends an average/minimum uniformity of 5:1 or better; however, most sidewalk segments exceed the target, but are at 7:1 or better. Factors contributing to the substandard uniformity in the sidewalk areas include:

- Required spacing between street trees and street light poles.
- Lower target illuminance level for vehicle and parking lanes for PCC surface, resulting in lower wattage luminaires used. Light does not spread into the sidewalk areas as effectively.

PEDESTRIAN CROSSINGS

The vertical illuminance levels at the mid-block pedestrian crossings are evaluated to ensure enough light is cast onto the vertical surface of a pedestrian crossing the street at non-intersection locations, allowing adequate visibility to an approaching driver. The vertical illuminance calculations are performed through the center of the crosswalk facing each approaching direction of traffic at a height of 5-ft above the roadway. The horizontal illuminance at the mid-block crosswalks is calculated as part of the street segment lighting.

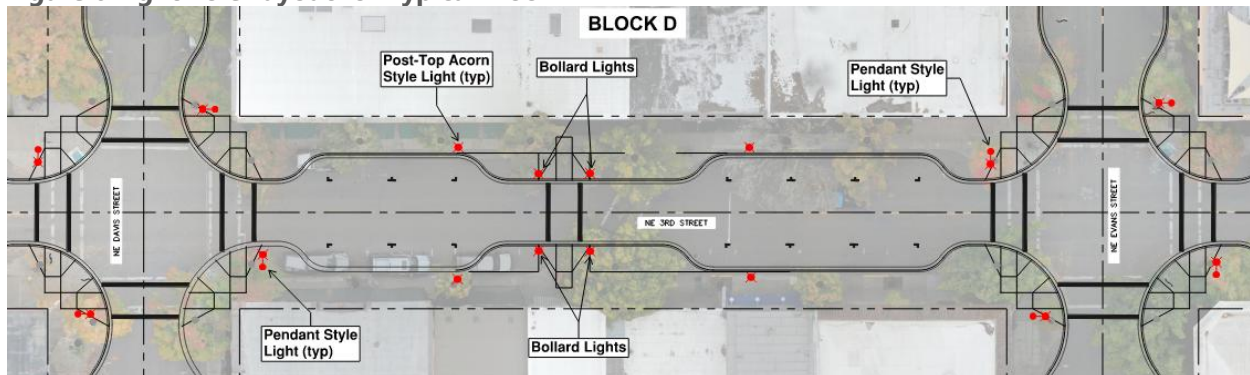
Chapter 12 of *ANSI/IES RP-8-22* recommends that the maintained average vertical illuminance levels meet or exceed the maintained average horizontal design levels for the intersection or segment, and that *"research shows that maintained average vertical illuminance in crosswalks of 20 to 40 lux [1.8 to 3.7 foot-candles] will benefit visibility of the pedestrian"*. We recommend that the mid-block crosswalks be illuminated to an average vertical illuminance level of at least 0.6 foot-candles matching the horizontal illuminance on the segment, with higher levels provided wherever possible.

The recommended light levels and uniformity levels for the mid-block crosswalks are summarized in Table 6 below. Note that the 30% design concept does not include mid-block curb extension areas or pedestrian crossings in the two blocks between the Portland & Western Railroad and NE Johnson Street (Blocks "H" and "I") due to the 3-lane cross-section in Block "I" and associated lane tapers in Block "H".

Preliminary Lighting Layout

A preferred light pole layout was determined through coordination with the City and project team, and informed by initial photometric analysis for a typical block using the proposed pendant style, post-top acorn style, and lighted bollards discussed above. The light pole layout for a typical block is shown in Figure 6.

Figure 6 Light Pole Layout for Typical Block



The lighting layout generally used for each block includes:

- **Four (4) pendant style lights at each intersection** – one pole oriented over each of the pedestrian crossings on the departure side of the intersection.
 - The pole placement allows for adequate lighting of the intersection and crosswalks. Poles will be in positions consistent with the typical signal pole locations at signalized intersections.
- **Four (4) post-top acorn style lights on each mid-block segment** – two pairs positioned opposite each other spaced evenly mid-block.
 - Positioning poles opposite each other facilitates lighting both the street and sidewalks adequately due to low mounting height of poles.
 - City staff and design team expressed the preference to have lights oriented opposite each other for a more uniform urban design aesthetic.
- **Four (4) lighted bollards at each midblock pedestrian crossing** – one on each corner of the crossings.

- The bollards are necessary to achieve the vertical illuminance levels without having additional taller poles directly adjacent to the crosswalks.
- Bollards more easily fit within the landscape/tree planting concept to provide low-level lighting that does not conflict with tree placement.

Some pole placements in the 30% design vary slightly from the "typical" due to existing driveway or underground utility locations. Further adjustments may be needed as the design progresses. The mid-block pole layout in Block "I" from NE Irvine Street to NE Johnson Street uses a "staggered" layout due to constraints with existing driveway locations. The pole layout includes one (1) pendant style pole to improve lighting for the existing crosswalk in the westbound right-turn lane at NE Johnson Street & NE 3rd Street.

Photometric Analysis Results

A computerized photometric analysis was performed for the NE 3rd Street corridor using AGi32 analysis software. The design lighting levels resulting from the preliminary layout using the proposed poles and luminaires are summarized in Table 3 through Table 6 below. Luminaires with 3000k color temperature were used in the analysis because 3500k versions of photometric files were not available during the 30% design process. Note that the photometric analysis should be updated throughout the remaining final design process as pole locations and street geometry changes to ensure the lighting objectives continue to be met.

Photometric analysis output exhibits are included in Appendix "D".

Table 3 Street Segment Light Level Summary

Street Segment on NE 3rd St	Street Class	Pedestrian Conflict Area Class		Average Horizontal Illuminance (foot-candles)	Uniformity (Avg : Min)
NE Adams St to NE Baker St	Local	High	Recommended	≥ 0.6	≤ 6:1
			Design	1.2	6:1
NE Baker St to NE Cows St			Recommended	≥ 0.6	≤ 6:1
			Design	1.0	3:1
NE Cows St to NE Davis St			Recommended	≥ 0.6	≤ 6:1
			Design	1.0	3:1
NE Davis St to NE Evans St			Recommended	≥ 0.6	≤ 6:1
			Design	1.1	6:1
NE Evans St to NE Ford St			Recommended	≥ 0.6	≤ 6:1
			Design	1.0	3:1
NE Ford St to NE Galloway St			Recommended	≥ 0.6	≤ 6:1
			Design	1.1	6:1
NE Galloway St to Railroad			Recommended	≥ 0.6	≤ 6:1
			Design	1.1	4:1
Railroad to NE Irvine St			Recommended	≥ 0.6	≤ 6:1
			Design	1.2	3:1
NE Irvine St to NE Johnson St			Recommended	≥ 0.6	≤ 6:1
			Design	1.1	6:1

Table 4 Intersection Light Level Summary

Intersection	Street Class	Pedestrian Conflict Area Class		Average Horizontal Illuminance (foot-candles)	Uniformity (Avg : Min)
NE Adams St at NE 3rd St	Local / Major	High	Recommended	≥ 1.8	≤ 3:1
			Design	2.2	4:1
NE Baker St at NE 3rd St	Local / Major		Recommended	≥ 1.8	≤ 3:1
			Design	2.1	2:1
NE Cows St at NE 3rd St	Local / Local		Recommended	≥ 1.2	≤ 6:1
			Design	1.7	4:1
NE Davis St at NE 3rd St	Local / Collector		Recommended	≥ 1.4	≤ 4:1
			Design	1.9	2:1
NE Evans St at NE 3rd St	Local / Collector		Recommended	≥ 1.4	≤ 4:1
			Design	1.8	4:1
NE Ford St at NE 3rd St	Local / Local		Recommended	≥ 1.2	≤ 6:1
			Design	1.8	2:1
NE Galloway St at NE 3rd St	Local / Local		Recommended	≥ 1.2	≤ 6:1
			Design	1.9	3:1
NE Irvine St at NE 3rd St	Local / Local		Recommended	≥ 1.2	≤ 6:1
			Design	1.6	5:1
NE Johnson St at NE 3rd St	Local / Major		Recommended	≥ 1.8	≤ 3:1
			Design	2.5	2:1

Table 5 Sidewalk Light Level Summary

Street Segment on NE 3rd St	Side of Street	Pedestrian Conflict Area Class	Average Horizontal Illuminance (foot-candles)	Uniformity (Avg : Min)
Recommended Lighting Levels				
All	Both	Medium - High	$\geq 0.5 - 0.9$	$\leq 5 : 1$
Concept Design Lighting Level Results				
NE Adams St to NE Baker St	North	Medium - High	0.7	7:1
	South		0.7	7:1
NE Baker St to NE Cows St	North		0.7	7:1
	South		0.7	7:1
NE Cows St to NE Davis St	North		0.6	6:1
	South		0.7	7:1
NE Davis St to NE Evans St	North		0.7	7:1
	South		0.6	6:1
NE Evans St to NE Ford St	North		0.6	6:1
	South		0.7	7:1
NE Ford St to NE Galloway St	North		0.7	7:1
	South		0.7	7:1
NE Galloway St to Railroad	North		0.6	6:1
	South		0.7	7:1
Railroad to NE Irvine St	North		0.7	7:1
	South		0.8	4:1
NE Irvine St to NE Johnson St	North		0.8	4:1
	South		1.0	10:1

Table 6 Mid-Block Pedestrian Crossing Light Level Summary

Street Segment for Mid-Block Crossing	Approaching Traffic Direction	Average Vertical Illuminance (foot-candles)	Uniformity (Avg : Min)
Recommended Lighting Levels			
All	Both	≥ 0.6	$\leq 6 : 1$
Concept Design Lighting Level Results			
NE Adams St to NE Baker St	Eastbound	1.6	1:1
	Westbound	1.5	2:1
NE Baker St to NE Cows St	Eastbound	1.6	1:1
	Westbound	1.7	1:1
NE Cows St to NE Davis St	Eastbound	1.5	1:1
	Westbound	1.7	1:1
NE Davis St to NE Evans St	Eastbound	1.8	1:1
	Westbound	1.6	1:1
NE Evans St to NE Ford St	Eastbound	1.5	1:1
	Westbound	1.9	1:1
NE Ford St to NE Galloway St	Eastbound	1.8	1:1
	Westbound	1.6	1:1
NE Galloway St to Railroad	Eastbound	1.6	1:1
	Westbound	1.6	1:1
NE Johnson St – WB Right Turn Lane	Westbound	3.0	4:1
NE Adams St – North Leg Crosswalk	Southbound	2.6	3:1

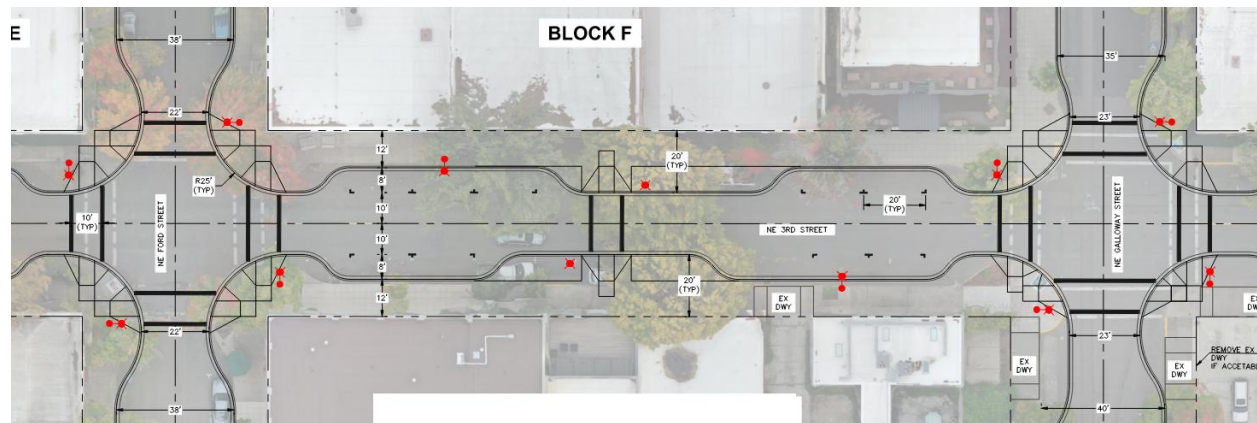
Alternative Pole Layouts

Alternative lighting layouts were explored to determine if fewer poles could feasibly be used while still meeting the lighting objectives. Options are constrained by the following:

- **Relatively low pole heights** – Limits the spread of light outward from the pole, requiring tighter pole spacing.
- **Mid-block crosswalks** – Vertical illuminance targets require having lights directly adjacent to the crossings. Limits the ability to have a more uniform “staggered” pattern along the block.
- **Mid-block “grove” landscape concept** – Spacing between street light poles and street trees would limit the locations available for street trees in the mid-block curb extensions.

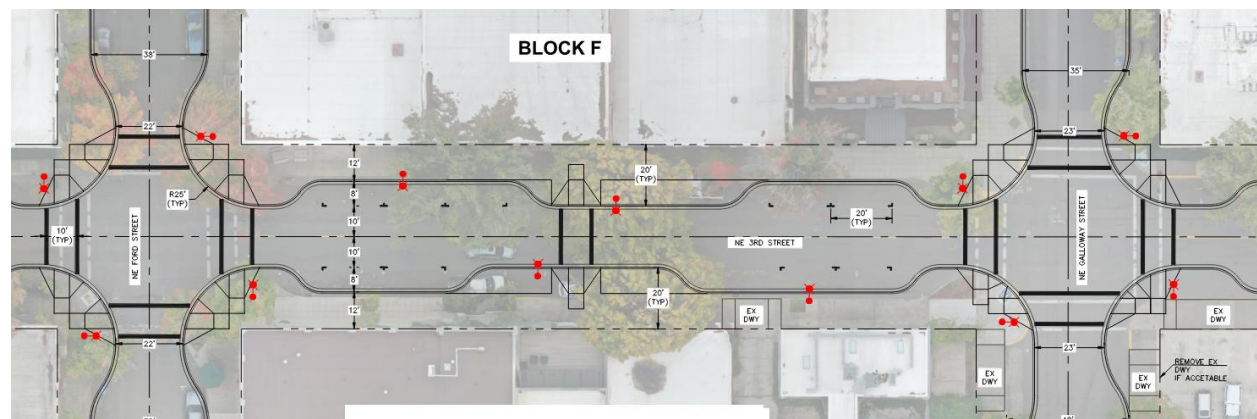
The layout shown in Figure 7 includes both pendant style poles and post-top acorn style poles in a “staggered” pattern midblock. The layout requires 4 midblock poles but allows for the removal of the lighted bollards from the design. The post-top acorn poles would be adjacent to the pedestrian crossings. In order to meet the light level requirements, the pendant poles would need to be at least 18’-20’ mounting height, whereas the existing poles are 16’ mounting height. This layout would limit the placement of street trees in the mid-block grove areas.

Figure 7 Mixed Pendant and Post-Top Acorn Midblock Pole Layout



Similar to the option shown above, the alternative layout shown in Figure 8 includes a “staggered” midblock pole layout but uses only pendant style poles which would need to be at least 18’-20’ mounting height. This layout also limits the landscape design flexibility in the mid-block curb extensions but has better coverage and uniformity of lighting in the sidewalk areas because of the consistent pole heights.

Figure 8 Pendant Style Poles Only



CONCLUSIONS AND RECOMMENDATIONS

We conclude the following based on the street lighting assessment summarized above:

- **Target Lighting Levels** – Lighting of street segments, intersections, sidewalks, and mid-block pedestrian crossings should follow guidance from the Illuminating Engineering Society (IES) *Recommended Practice: Lighting Roadway and Parking Facilities (ANSI/IES RP-8-22)* and the MWL *Street Lighting Design Guide*, where applicable.
 - Specific lighting values are summarized in Table 3 through Table 6 above.
 - Assume “high” pedestrian activity level classification.
 - Assume “local” street classification for NE 3rd Street. Other street classifications to be per McMinnville TSP, summarized above.
 - Assume PCC surface for vehicle lanes, parking lanes, and sidewalk areas.
- **Lighting Poles and Luminaires** – Use of the existing Sternberg decorative poles and luminaires, along with lighted bollards at mid-block pedestrian crossings, can meet the target lighting levels. These luminaires include dimming features which can be utilized to achieve the targets.
- **Pendant Style Lights:** Use the pole and luminaire style shown in Figure 1, or approved equal, at intersections.
 - Pole: Sternberg 5400 Hamilton Roadway Pole – 18’ tall with 4’ arm
 - Luminaire: Sternberg 1910LED-LBS-1L-35-T3
 - 3,500K color temperature
 - Type 3 lighting distribution pattern
 - Wattage: 36-watt & 69-watt versions
- **Post-Top Acorn Style Lights:** Use the pole and luminaire style shown in Figure 2, or approved equal, at mid-block locations.
 - Pole: Sternberg 3400 Georgetown Ornamental Pole – 12’ tall
 - Luminaire: Sternberg 1130ALED-5P-12L-35-T3-MDL014
 - 3,500K color temperature
 - Type 3 lighting distribution pattern
 - Wattage: 47-watt, 3,730 initial lumen output
- **Lighted Bollards:** Use lighted bollards at mid-block crosswalk locations, similar to those shown in Table 1 that match the architectural aesthetic and “historic” theme for the project.
 - Note: Feedback from the City, design team, and stakeholders is needed to inform the specific bollard light to be included. The Project’s PAC indicated a desire for a more “simple” bollard rather than a decorative one.
- **Lights on Signal Poles:** The lighting layout and 30% design assumes the use of the pendant style luminaires (93-watt version) mounted on 6’ decorative arms on signal poles at the following intersections:
 - NE Baker Street & NE 3rd Street
 - NE Davis Street & NE 3rd Street
 - NE Ford Street & NE 3rd Street
- **Street Light Layout:** The lighting layout shown in Figure 6 and summarized below will meet the light level targets and other design objectives of the project.
 - **Four (4) pendant style lights at each intersection** – one pole oriented over each of the pedestrian crossings on the departure side of the intersection.

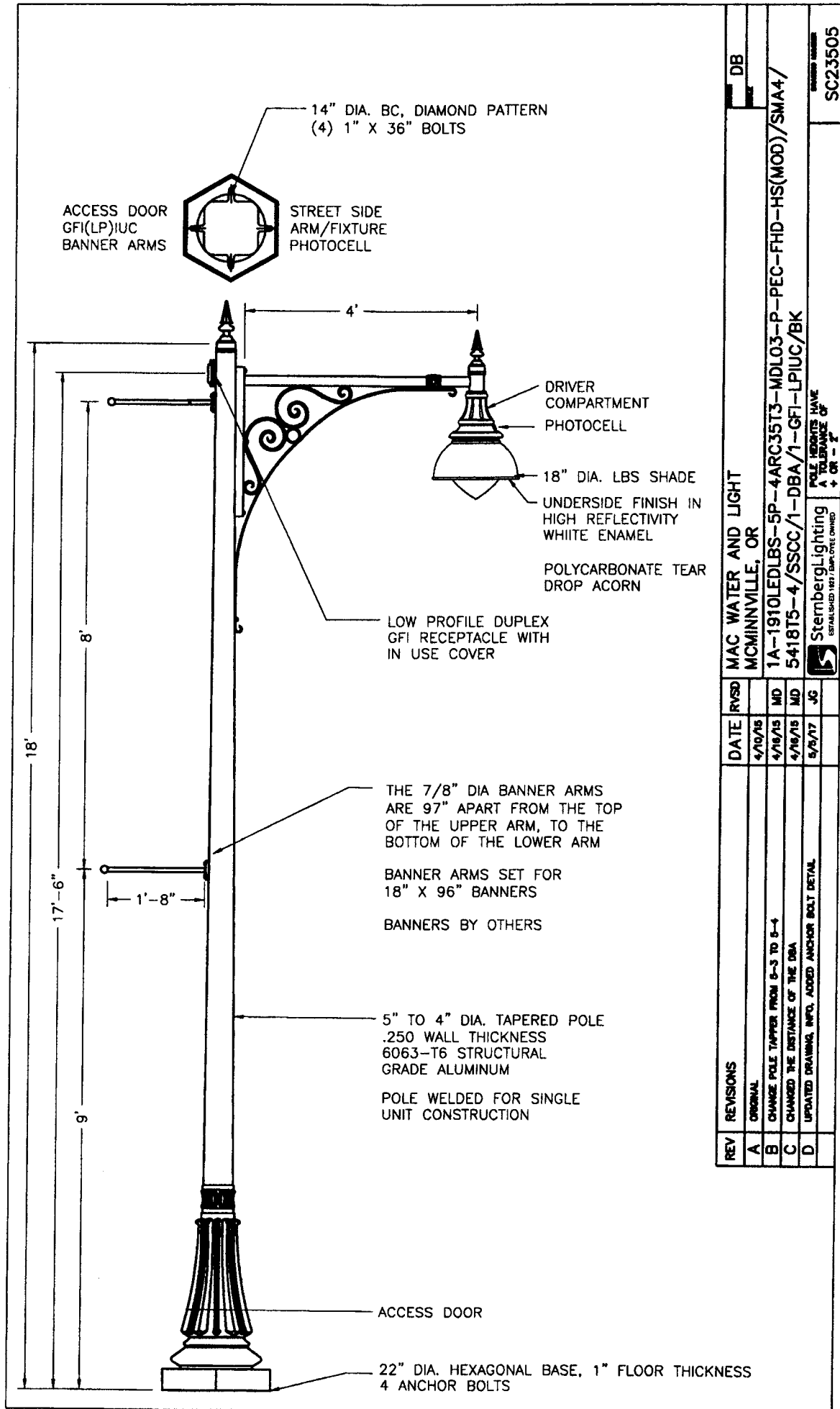
- The 30% design layout includes **26** pendant style poles.
- **Four (4) post-top acorn style lights on each mid-block segment** – two pairs positioned opposite each other spaced evenly mid-block.
 - The 30% design layout includes **36** post-top acorn style poles.
- **Four (4) lighted bollards at each midblock pedestrian crossing** – one on each corner of the crossing.
 - The 30% design layout includes **28** lighted bollards.

Below are several additional considerations for design and implementation, some of which have come up in discussions with the Technical Advisory Committee (TAC) and Project Advisory Committee (PAC) during the 15%-30% design phases:

- **Dark Sky Compliant Luminaires:** Per discussion following 15% design, the decision was made to move forward using the existing luminaires for consistency with MWL approved equipment and existing installations downtown.
- **Lighted Bollards:** Concerns were raised following the 15% design regarding maintenance and cost of lighted bollards. City staff have concerns about the vulnerability of bollards close to the roadway, and MWL staff raised the issue that these are not currently in the MWL rate schedule and no agreements exist for powering or maintaining a light of this type.
 - The decision was made to keep the lighted bollards in the design at 30%, but additional discussions and decisions will be required between the City and MWL to determine how they will be powered and maintained.
 - Opportunities for additional lighted bollards at the intersection corners were discussed during the 30% design phase, but no decision was reached. The bollard lights are not needed to achieve illuminance objectives but could supplement the urban design aesthetic and provide additional guidance at corners.
- **ODOT Approvals:** The lighting layout from NE Adams Street to NE Baker Street will likely require ODOT Region 2 technical approval. The inclusion of decorative arms and luminaires on the new signal poles at NE Baker Street & NE 3rd Street will also require approval.
- **Pole Appurtenances:** Poles and foundations should be able to accommodate the following:
 - **Banner Arms** – on pendant style pole similar to existing poles.
 - McMinnville Water & Light (MWL) noted that banner arms on the shorter poles tend to be vandalized/broken quite often and the balls at the end of the arms removed.
 - **Flower Basket Hangers and Irrigation** – on post-top acorn poles similar to existing poles. The City also would like to explore the possibility for incorporating drip irrigation systems integral to the poles.
 - **GFI outlets** – on all poles similar to existing poles
 - TAC and PAC discussion indicated that existing outlets feeding string lights trip often, possibly due to moisture intrusion in outlets. Consider alternate receptacle box configurations.
 - Ensure adequate wire sizing and amperage in power supply to accommodate expected usage. Determine the amperage needs for each outlet in coordination with MWL, TAC and PAC.

- **Lighting Power Supply:** MWL suggested possibly going to a City-owned and maintained metered service type for lighting and GFI receptacles on NE 3rd Street. Determine the preferred approach as design progresses.
 - Per discussions following the 15% design review, the City's preferred approach is to continue with MWL supplying power and maintaining the lighting system.
- **Re-Use of Existing Poles:** The City may consider re-using existing pendant style (29 existing) and/or post-top acorn style (5 existing) poles if that style is selected to move forward into the final design.
 - Existing poles can be evaluated during final design for condition and expected life span. Poles can be cleaned and repainted, and luminaires replaced.
 - Re-use of existing poles could represent a significant overall cost saving to the project.
- **Existing Donor Plaques on Poles:** Some existing post-top acorn lights have donor plaques on the poles. The plaques should be salvaged and re-installed on new poles if existing poles are not re-used.
- **Alternative Light Pole Layouts:** The alternative layout presented in Figure 7 and Figure 8 above could eliminate the need for lighted bollards at the mid-block crosswalks, but would require taller (non-standard) poles to achieve light level and uniformity targets. Number and spacing of street trees would also need to be re-evaluated.

Appendix A: Existing Light Poles and Luminaires



REV		REVISIONS		DATE		RVS	
A		ORIGINAL		4/10/16			
B		CHANGE POLE TAPER FROM 5-3 TO 5-4		4/19/16	MD		
C		CHANGED THE DISTANCE OF THE DBA		4/19/16	MD		
D		UPDATED DRAWING, INFO. ADDED ANCHOR BOLT DETAIL		5/5/17	JG		

MAC WATER AND LIGHT MC MINNIVILLE, OR		DB	
1A-1910LEDLBS-5P-4ARC35T3-MDL03-P-PEC-FHD-HS(MOD)/SMA4/ 5418T5-4/SSCC/1-DBA/1-GFI-LPIUC/BK		SC23505	

POLE HEIGHTS HAVE
A TOLERANCE OF
± 0.5"

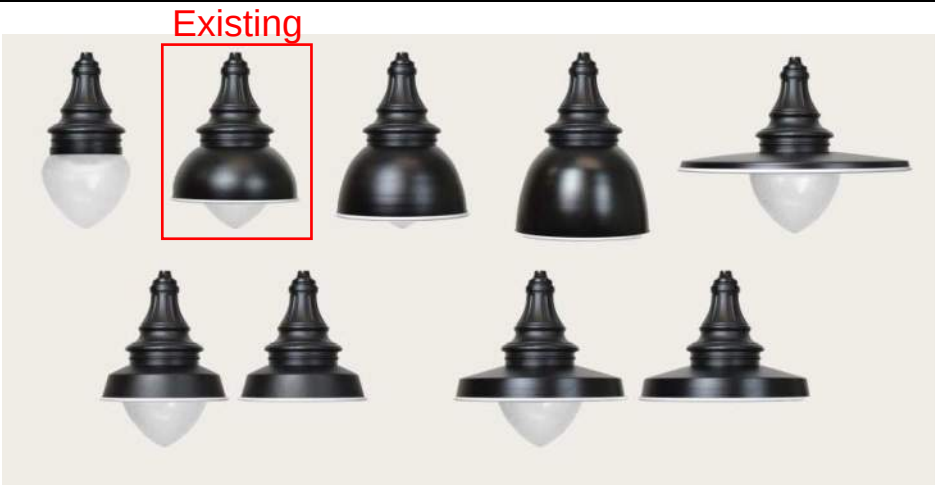
StembergLighting
ESTABLISHED 1927 / EMPLOYEE OWNED

Project Name

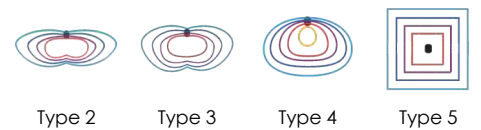
Qty

Type

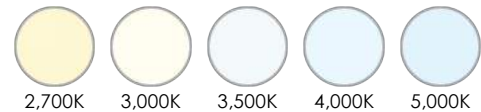
Catalog / Part Number



Distribution Type



CCT - Color Temp (K)



7 Year Warranty



IP Rating



Certifications



Description

The 1910LED series is a medium scale decorative pendant luminaire which consists of a decorative cast aluminum fitter, and optional heavy gauge spun aluminum shade with integral lens frame. The optical enclosure is sealed against moisture and dust penetration.

Features

Mounting Configuration	1W: Wall Mount	1A: 1 Arm Mount
	2A: 2 Arm Mount @ 180°	2A90: 2 Arm Mount @ 90°
	3A: 3 Arms @ 120°	3A90: 3 Arms @ 90°
	4A: 4 Arms @ 90°	1AM: 1 Arm Mid-Mount
	2AM: 2 Arm Mid-Mount @180°	SH44: Stem Hung
	CH44: Chain Hung	CAT: Catenary

Optional Control Receptacle	R7: 7-Pin control receptacle only
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Optional Control	PE: Twist-Lock Photocontrol (120V-277V)
	PE4: Twist-Lock Photocontrol (347V-480V)
	SC: Shorting Cap
	PEC: Electronic Button Photocontrol (120V-277V)
	PEC4: Electronic Button Photocontrol (480V)

Optional Fuse	FHD: Double Fuse and Holder
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Optional Hangstraight	HSBS: Standard Horizontal Hangstraight, Spike Finial
	HSBN: Standard Horizontal Hangstraight, No Finial
	HSBB: Standard Horizontal Hangstraight, Ball Finial
	EZ: Vertical Hangstraight, Large, "EZ" Mount

Optional House Side Shield	HSS: 120° House Side Shield
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Optional Fixed Dimming Resistor Board	FDRB: Fixed Dimming Resistor Board
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Physical

Fixture	1910LED: Acorn, Medium
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Shade	LBS: Short Shade, Reno
	LB: Medium Shade, Lake Bluff
	LBL: Large Shade, Lake Bluff
	RLM18: 18" RLM Shade, Park Ridge
	RLM24: 24" RLM Shade, Park Ridge
	RLM32: 32" RLM Shade, Park Ridge
	A: Acrylic Clear Teardrop
	P: Poly Clear Teardrop
	FL: Flat Lens
Finish	BKT: Black Textured
	WHT: White Textured
	PGT: Park Green Textured
	ABZT: Architectural Medium Bronze Textured
	DBT: Dark Bronze Textured
	CM: Custom Match
	OI: Old Iron
	RT: Rust
	WBR: Weathered Brown
	CD: Cedar
	WBK: Weathered Black
	TT: Two Tone
	VG: Verde Green
	SI: Swedish Iron
	OWGT: Old World Gray Textured

Light Source

LED	1L: 1 LED	
CCT - Color Temp (K)	27: 2,700K	30: 3,000K
	35: 3,500K	40: 4,000K
	50: 5,000K	
Distribution Type	T2: Type 2	T3: Type 3
	T4: Type 4	T5: Type 5

Electrical and control

Driver	MDL03: 120V-277V, 300mA	MDH03: 347V-480V, 300mA
	MDL06: 120V-277V, 600mA	MDH06: 347V-480V, 600mA
	MDL09: 120V-277V, 900mA	MDH09: 347V-480V, 900mA
	MDL12: 120V-277V, 1200mA	MDH12: 347V-480V, 1200mA
	MDL16: 120V-277V, 1600mA	MDH16: 347V-480V, 1600mA

Specifications

Housing	Cast Aluminum housing with an anodized aluminum heat sink.
Hang-Straight	A hang-straight transition is required for most hanging mounting configurations.
	The Standard (HSHx) is a cast aluminum ball and swivel horizontal hang-straight. Available with a spike (S), a ball (B), or no finial (N). The hang-straight slips a 4" long by 2-3/8" OD horizontal tenon.
	The (EZ) is a cast stainless steel ball and swivel vertical hang-straight. The special 2-part design allows for easy installation. It is factory installed under an arm and on the fixture.
Catenary Mount	The Catenary mount option includes a cast aluminum span wire clamp, which accommodates cables 1/4"-5/8" in diameter. Below the clamp is a decorative cast aluminum wire box and cover which transitions to the EZ vertical Hangstraight for fixture attachment. Aircraft Cable by others.

Lens	Clear textured acorn offered in impact resistant DR acrylic or UV stabilized polycarbonate material. An injection molding process adds a textured surface for glare mitigation.
Shades	Optional heavy gauge spun aluminum shades in a variety of styles adds decorative elements and helps control up light. Existing shades on site CANNOT be reused, a NEW shade must be ordered.
Hardware	Includes Stainless steel hardware. Most finishes will include hardware with a Black Oxide conversion coating. Light finishes will get non-color coated hardware (Whites and Silvers)
UL Listing	UL listed per UL1598 and CSA 22.2 No. 250.0 for the United States and Canada. Suitable for Wet Locations.
Electronic Driver	The LED driver is UL recognized and will be securely mounted inside the fixture, for optimized performance and longevity. It will be supplied with a quick-disconnect electrical connector on the power supply, providing easy power connections for fixture installation and maintenance. It will have DC voltage output and be a constant current design. It runs at 50/60HZ and will have overload, overheat, and short circuit protection. It will be supplied with a supplemental line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines. It will be a high efficiency driver with a THD less than 20% and a high-power factor greater than .9. It will be dimming capable using a 0-10V signal, consult factory for more information.
IP Rating	IP66 rated
Finish	Our 6 Stage Polyester Powder coat paint system offers a beautiful high-end finish that holds up to even the most extreme environments. Each part is inspected for quality and consistency before being released for shipment. Our system exceeds AAMA 2604, AAMA 2605, ASTM D523 and ASTM D4214 requirements.
Traditional Finish	Traditional paint finishes are available in Sternberg Lighting's Traditional product line. A range of colors help accent the decorative elements on the product. Finishes are available in textured or smooth. Available finishes include: Black, White, Park Green, Architectural Medium Bronze and Dark Bronze
Sternberg Select Finish	The Sternberg Select antique-inspired palette adds a touch of vintage elegance to modern applications. Old World Gray Textured is a 1 part powder coat with metallic flakes. Verde Green and Swedish Iron is a 2 part finish that includes a powder coat base coat with a hand applied antique top coat. The top coat is unique to each application and changes over time.
Custom Finish	Custom finishes are offered to adapt to any application. Rust, Weathered Brown and Cedar are special 1 part powder coat finishes with a distinctive look. Old Iron and Weathered Black are 2 part finishes that includes a powder coat base coat with a hand applied antique top coat. The top coat is unique to each application and changes over time. Two-Tone and Custom Match options are available to blend sternberg product with the site, consult factory for more information.
Warranty	7-year limited warranty. See Website for Terms and Conditions.
LEDs	The luminaire shall use high output, high brightness LED's, consisting of a two piece assembly complete with Chip on Board (COB) LED component and COB holder frame. The LEDs shall be 100% recyclable; not contain lead, mercury or any other hazardous substances and shall be RoHS compliant. Lumen maintenance shall be determined in accordance with IESNA TM-21, based on LED manufacturer LM-80 test data of no less than 6,000 hours and in-situ testing of the luminaire by an NVLAP accredited Energy Efficient Lighting Products lab. The high-performance white LEDs will have a predicted lumen depreciation of approximately 100,000 hours with greater than 70% of initial output at 25°C. The High Brightness, High Output LED's shall be 4000K (2700K, 3000K, 3500K or 5000K option) correlated color temperature (CCT) with a 70 (minimum) color rendering index (CRI). Consult factory for custom color CCT. The luminaire shall have a minimum _____ (see table) delivered initial lumen rating when operated at steady state with an average ambient temperature of 25°C (77°F). CCT Lumen Derate Values from 4,000K 2,700K (80+ CRI)=.89 3,000K (70+ CRI)=.97 3,500K (80+ CRI)=.93 5,000K (70+ CRI)=1.01
Optics	The luminaire shall be provided with individual, refractor type optics applied to each LED. The luminaire shall provide Type ____ (2, 3, 4 or 5) light distribution per the IESNA classifications. Testing shall be done in accordance with IESNA LM-79.

Backlight Optical Control	Internal House Side Shield (HSS): An optional INTERNAL 120° House Side Shield helps control backlight. Spun aluminum panel painted to match fixture.
Fixed Dimming Resistor Board (FDRB)	Optional numbered 10-step selector switch allows for fine adjustment of the light levels in the field, repeatable from location to location. Offers dimming from 25% to 100% of the original output. Enclosure is composite material, sealed to protect components for the life of the product.
Photocontrols	Button Photocell: The photocontrol will be mounted on the fixture and pre-wired to driver. The electronic button type photocontrol is instant on and will turn on at 1.5 footcandles and will turn off at 2-3 footcandles. See pole spec sheet for pole mounted version. Twist-Lock Style (Hangstraight Mount): The photocontrol shall be mounted externally on the hangstraight and pre-wired to driver. The twist lock type photocontrol is instant on with a 3-6 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles. If an R7 is specified alongside a BALL or SPIKE style finial on hang-straight, a decorative cap (with window) is included to cover a STANDARD photocell. Use the NO FINIAL hangstraight option if the R7 is for use with a WIRELESS CONTROLLER.

EPA & Weight Chart

Fixture	1910LED-A	1910LEDRLM18-A	1910LEDRLM24-A	1910LEDRLM32-A
EPA (FT ²)	0.64	0.71	0.79	0.77
Weight (LBS)	23.34	27.52	30.39	33.72

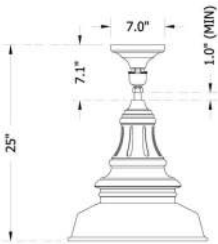
Fixture	1910LEDRLM18-FL	1910LEDRLM24-FL	1910LEDLBS-A	1910LEDLB-A
EPA (FT ²)	0.54	0.62	0.75	0.81
Weight (LBS)	27.61	30.49	28.59	29.88

Fixture	1910LEDLBL-A			
EPA (FT ²)	0.96			
Weight (LBS)	31.72			

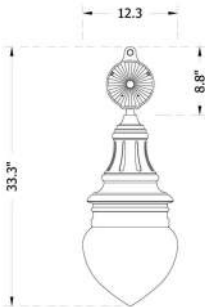
Dimensions



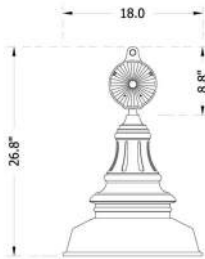
Stem Hung/Chain Hung
(SH44/CH44)
1910LED-A



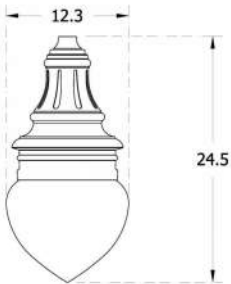
Stem Hung/Chain Hung
(SH44/CH44)
1910LED-RLM18-FL



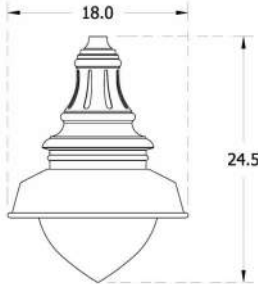
Catenary Mount (CAT)
1910LED-A



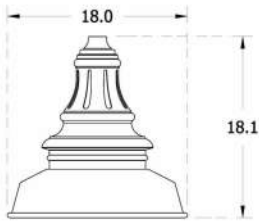
Catenary Mount (CAT)
1910LED-RLM18-FL



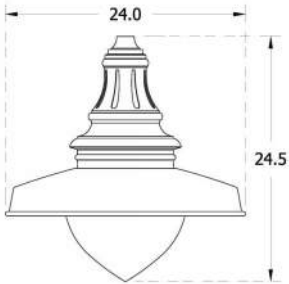
1910LED-A



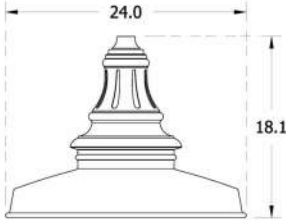
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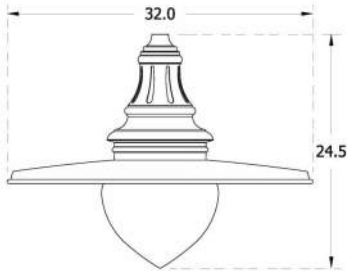
1910LED-RLM18-FL



1910LED-RLM24-A

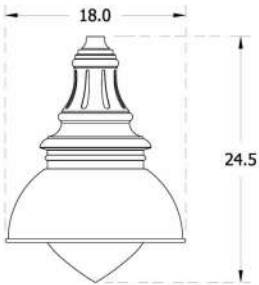


1910LED-RLM24-FL

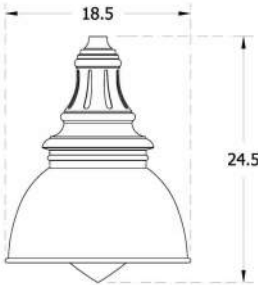


1910LED-RLM32-A

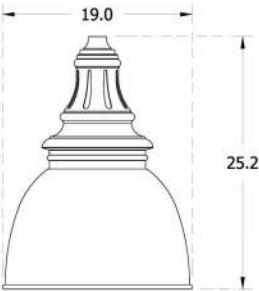
Existing



1910LED-LBS-A



1910LED-LB-A



1910LED-LBL-A

Hangstraight

Horizontal Hang-straight's slip fit 4" long by 2-3/8" OD on horizontal tenon



Standard Horizontal Hangstraight,
Spike Finial (**HSHS**)



Standard Horizontal Hangstraight,
Ball Finial (**HSHB**)



Standard Horizontal Hangstraight,
No Finial (**HSHN**)



"EZ" Vertical hangstraight (**EZ**)

Options



NEMA Twist-Lock Photocell (**PE** or
PE4)



Fixed Dimming Resistor Board (**FDRB**)



Button Photocell (**PEC**)



7-Pin NEMA Twist-Lock Receptacle
(**R7**)



Double Fuse Holder & (2) 3A Fuses
(**FHD**)



House Side Shield (**HSS**)

Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
1L40T_-MDL16	11060	B3U4G3	118.9	11115	B3U4G3	119.5	11095	B2U4G3	119.3	11615	B3U4G3	124.9	93
1L30T_-MDL16	10780	B3U4G3	115.9	10830	B3U4G3	116.5	10810	B2U4G3	116.2	11320	B3U4G3	121.7	93
1L27T_-MDL16	9790	B3U4G3	105.3	9840	B3U4G3	105.8	9825	B2U4G3	105.6	10285	B3U4G3	110.6	93
1L40T_-MDL12	8795	B2U4G2	127.5	8775	B2U4G3	127.2	8750	B2U4G3	126.8	9115	B3U4G2	132.1	69
1L30T_-MDL12	8570	B2U4G2	124.2	8550	B2U4G3	123.9	8525	B2U4G3	123.6	8885	B3U4G2	128.8	69
1L27T_-MDL12	7785	B2U4G2	112.8	7770	B2U4G3	112.6	7745	B2U4G3	112.2	8070	B3U4G2	117.0	69
1L40T_-MDL09	7140	B2U4G2	132.2	7115	B2U4G2	131.8	7110	B1U4G2	131.7	7390	B3U4G2	136.9	54
1L30T_-MDL09	6960	B2U4G2	128.9	6935	B2U4G2	128.4	6930	B1U4G2	128.3	7200	B3U4G2	133.3	54
1L27T_-MDL09	6320	B2U4G2	117.0	6300	B2U4G2	116.7	6295	B1U4G2	116.6	6545	B3U4G2	121.2	54
1L40T_-MDL06	4870	B1U3G2	135.3	4835	B2U3G2	134.3	4840	B1U3G2	134.4	5035	B2U3G2	139.9	36
1L30T_-MDL06	4745	B1U3G2	131.8	4710	B2U3G2	130.8	4715	B1U3G2	131.0	4905	B2U3G2	136.3	36
1L27T_-MDL06	4310	B1U3G2	119.7	4280	B2U3G2	118.9	4285	B1U3G2	119.0	4460	B2U3G2	123.9	36
1L40T_-MDL03	2390	B1U3G1	140.6	2395	B1U3G1	140.9	2390	B1U3G1	140.6	2485	B1U3G1	146.2	17
1L30T_-MDL03	2330	B1U3G1	137.1	2335	B1U3G1	137.4	2330	B1U3G1	137.1	2420	B1U3G1	142.4	17
1L27T_-MDL03	2115	B1U3G1	124.4	2120	B1U3G1	124.7	2115	B1U3G1	124.4	2200	B1U3G1	129.4	17

No Shade, Teardrop Lens (1910LED-A)

Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
1L40T_-MDL16	10575	B3U3G3	113.7	10685	B3U3G3	114.9	10585	B2U3G2	113.8	11060	B3U3G2	118.9	93
1L30T_-MDL16	10305	B3U3G3	110.8	10415	B3U3G3	112.0	10315	B2U3G2	110.9	10780	B3U3G2	115.9	93
1L27T_-MDL16	9365	B3U3G3	100.7	9460	B3U3G3	101.7	9370	B2U3G2	100.8	9790	B3U3G2	105.3	93
1L40T_-MDL12	8370	B2U3G2	121.3	8375	B2U3G2	121.4	8310	B2U3G2	120.4	8680	B3U3G2	125.8	69
1L30T_-MDL12	8155	B2U3G2	118.2	8160	B2U3G2	118.3	8100	B2U3G2	117.4	8460	B3U3G2	122.6	69
1L27T_-MDL12	7410	B2U3G2	107.4	7415	B2U3G2	107.5	7355	B2U3G2	106.6	7685	B3U3G2	111.4	69
1L40T_-MDL09	6815	B2U3G2	126.2	6830	B2U3G2	126.5	6765	B1U3G2	125.3	7075	B3U3G1	131.0	54
1L30T_-MDL09	6640	B2U3G2	123.0	6655	B2U3G2	123.2	6595	B1U3G2	122.1	6895	B3U3G1	127.7	54
1L27T_-MDL09	6035	B2U3G2	111.8	6045	B2U3G2	111.9	5990	B1U3G2	110.9	6265	B3U3G1	116.0	54
1L40T_-MDL06	4625	B1U2G1	128.5	4640	B2U2G2	128.9	4600	B1U2G1	127.8	4810	B2U3G1	133.6	36
1L30T_-MDL06	4505	B1U2G1	125.1	4520	B2U2G2	125.6	4485	B1U2G1	124.6	4685	B2U3G1	130.1	36
1L27T_-MDL06	4095	B1U2G1	113.8	4110	B2U2G2	114.2	4075	B1U2G1	113.2	4260	B2U3G1	118.3	36
1L40T_-MDL03	2280	B1U2G1	134.1	2285	B1U2G1	134.4	2255	B1U2G1	132.6	2385	B1U2G1	140.3	17
1L30T_-MDL03	2220	B1U2G1	130.6	2225	B1U2G1	130.9	2200	B1U2G1	129.4	2325	B1U2G1	136.8	17
1L27T_-MDL03	2020	B1U2G1	118.8	2025	B1U2G1	119.1	1995	B1U2G1	117.4	2110	B1U2G1	124.1	17

RLM Shade, Teardrop Lens (1910LED-RLM18-A)

Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
1L40T_-MDL16	10895	B2U0G2	117.2	10770	B3U0G3	115.8	10850	B2U0G2	116.7	11395	B3U0G2	122.5	93
1L30T_-MDL16	10615	B2U0G2	114.1	10495	B3U0G3	112.8	10575	B2U0G2	113.7	11105	B3U0G2	119.4	93
1L27T_-MDL16	9645	B2U0G2	103.7	9535	B3U0G3	102.5	9605	B2U0G2	103.3	10090	B3U0G2	108.5	93
1L40T_-MDL12	8590	B2U0G2	124.5	8480	B2U0G2	122.9	8625	B2U0G1	125.0	8945	B3U0G1	129.6	69
1L30T_-MDL12	8370	B2U0G2	121.3	8265	B2U0G2	119.8	8405	B2U0G1	121.8	8715	B3U0G1	126.3	69
1L27T_-MDL12	7605	B2U0G2	110.2	7510	B2U0G2	108.8	7635	B2U0G1	110.7	7920	B3U0G1	114.8	69
1L40T_-MDL09	6985	B2U0G2	129.4	6915	B2U0G2	128.1	7015	B2U0G1	129.9	7305	B3U0G1	135.3	54
1L30T_-MDL09	6805	B2U0G2	126.0	6740	B2U0G2	124.8	6835	B2U0G1	126.6	7120	B3U0G1	131.9	54
1L27T_-MDL09	6185	B2U0G2	114.5	6120	B2U0G2	113.3	6210	B2U0G1	115.0	6465	B3U0G1	119.7	54
1L40T_-MDL06	4755	B1U0G1	132.1	4700	B1U0G1	130.6	4780	B1U0G1	132.8	4975	B2U0G1	138.2	36
1L30T_-MDL06	4635	B1U0G1	128.8	4580	B1U0G1	127.2	4660	B1U0G1	129.4	4850	B2U0G1	134.7	36
1L27T_-MDL06	4210	B1U0G1	116.9	4160	B1U0G1	115.6	4230	B1U0G1	117.5	4405	B2U0G1	122.4	36
1L40T_-MDL03	2350	B1U0G1	138.2	2355	B1U0G1	138.5	2350	B1U0G1	138.2	2475	B1U0G1	145.6	17
1L30T_-MDL03	2290	B1U0G1	134.7	2295	B1U0G1	135.0	2290	B1U0G1	134.7	2410	B1U0G1	141.8	17
1L27T_-MDL03	2080	B1U0G1	122.4	2085	B1U0G1	122.6	2080	B1U0G1	122.4	2190	B1U0G1	128.8	17

RLM Shade, Flat Lens (1910LED-RLM18-FL)

Existing

Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
1L40T_-MDL16	9610	B2U2G2	103.3	9450	B2U2G2	101.6	9815	B2U2G2	105.5	9600	B3U2G1	103.2	93
1L30T_-MDL16	9365	B2U2G2	100.7	9210	B2U2G2	99.0	9565	B2U2G2	102.8	9355	B3U2G1	100.6	93
1L27T_-MDL16	8510	B2U2G2	91.5	8365	B2U2G2	89.9	8690	B2U2G2	93.4	8500	B3U2G1	91.4	93
1L40T_-MDL12	7555	B2U2G1	109.5	7475	B2U2G1	108.3	7700	B2U2G1	111.6	7590	B2U2G1	110.0	69
1L30T_-MDL12	7365	B2U2G1	106.7	7285	B2U2G1	105.6	7505	B2U2G1	108.8	7395	B2U2G1	107.2	69
1L27T_-MDL12	6690	B2U2G1	97.0	6620	B2U2G1	95.9	6815	B2U2G1	98.8	6720	B2U2G1	97.4	69
1L40T_-MDL09	6145	B2U2G1	113.8	6085	B2U2G1	112.7	6260	B2U2G1	115.9	6165	B2U2G1	114.2	54
1L30T_-MDL09	5990	B2U2G1	110.9	5930	B2U2G1	109.8	6100	B2U2G1	113.0	6010	B2U2G1	111.3	54
1L27T_-MDL09	5440	B2U2G1	100.7	5385	B2U2G1	99.7	5540	B2U2G1	102.6	5460	B2U2G1	101.1	54
1L40T_-MDL06	4180	B1U2G1	116.1	4130	B1U2G1	114.7	4240	B1U1G1	117.8	4150	B2U1G1	115.3	36
1L30T_-MDL06	4075	B1U2G1	113.2	4025	B1U2G1	111.8	4130	B1U1G1	114.7	4045	B2U1G1	112.4	36
1L27T_-MDL06	3700	B1U2G1	102.8	3655	B1U2G1	101.5	3755	B1U1G1	104.3	3675	B2U1G1	102.1	36
1L40T_-MDL03	2055	B1U1G1	120.9	2025	B1U1G1	119.1	2075	B1U1G1	122.1	2060	B1U1G1	121.2	17
1L30T_-MDL03	2005	B1U1G1	117.9	1975	B1U1G1	116.2	2020	B1U1G1	118.8	2010	B1U1G1	118.2	17
1L27T_-MDL03	1820	B1U1G1	107.1	1795	B1U1G1	105.6	1835	B1U1G1	107.9	1825	B1U1G1	107.4	17

Short Shade, Teardrop Lens (1910LED-LBS-A)

Model #	LB SHADE T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	LBL SHADE T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
1L40T_-MDL16	8955	B3U1G1	96.3	8010	B3U0G1	86.1	93
1L30T_-MDL16	8725	B3U1G1	93.8	7805	B3U0G1	83.9	93
1L27T_-MDL16	7930	B3U1G1	85.3	7090	B3U0G1	76.2	93
1L40T_-MDL12	7065	B2U1G1	100.9	6325	B2U0G1	90.4	70
1L30T_-MDL12	6885	B2U1G1	98.4	6165	B2U0G1	88.1	70
1L27T_-MDL12	6255	B2U1G1	89.4	5600	B2U0G1	80.0	70
1L40T_-MDL09	5710	B2U1G1	105.7	5165	B2U0G1	95.6	54
1L30T_-MDL09	5565	B2U1G1	103.1	5035	B2U0G1	93.2	54
1L27T_-MDL09	5055	B2U1G1	93.6	4575	B2U0G1	84.7	54
1L40T_-MDL06	3880	B2U1G1	107.8	3510	B2U0G1	97.5	36
1L30T_-MDL06	3780	B2U1G1	105.0	3420	B2U0G1	95.0	36
1L27T_-MDL06	3435	B2U1G1	95.4	3110	B2U0G1	86.4	36
1L40T_-MDL03	1910	B1U1G0	112.4	1725	B1U0G0	101.5	17
1L30T_-MDL03	1860	B1U1G0	109.4	1680	B1U0G0	98.8	17
1L27T_-MDL03	1690	B1U1G0	99.4	1525	B1U0G0	89.7	17

Medium and Large Shade, Teardrop Lens
(1910LED-LB-A) & (1910LED-LBL-A)

How to Order

1A		1910LED	LBS	1L	35	T3	MDL06, MDL12, MDL16	A
Mounting Configuration	Overall Drop Length (In Inches) ⁽²⁾ ⁽³⁾	Fixture	Shade ⁽⁴⁾	LED	CCT - Color Temp (K)	Distribution Type	Driver	Lens
1W Wall Mount 1A 1 Arm Mount 2A 2 Arm Mount @ 180° 2A90 2 Arm Mount @ 90° 3A 3 Arms @ 120° 3A90 3 Arms @ 90° 4A 4 Arms @ 90° 1AM 1 Arm Mid-Mount 2AM 2 Arm Mid-Mount @180° SH44 Stem Hung CH44 Chain Hung CAT Catenary ⁽¹⁾		1910LED Acorn, Medium	LBS Short Shade, Reno LB Medium Shade, Lake Bluff ⁽⁵⁾ LBL Large Shade, Lake Bluff ⁽⁵⁾ RLM18 18" RLM Shade, Park Ridge RLM24 24" RLM Shade, Park Ridge RLM32 32" RLM Shade, Park Ridge	1L 1 LED	27 2,700K 30 3,000K 35 3,500K 40 4,000K 50 5,000K	T2 Type 2 T3 Type 3 T4 Type 4 T5 Type 5	MDL03 120V-277V, 300mA MDH03 347V-480V, 300mA MDL06 120V-277V, 600mA MDH06 347V-480V, 600mA MDL09 120V-277V, 900mA MDH09 347V-480V, 900mA MDL12 120V-277V, 1200mA MDH12 347V-480V, 1200mA MDL16 120V-277V, 1600mA MDH16 347V-480V, 1600mA	A Acrylic Clear Teardrop P Poly Clear Teardrop FL Flat Lens ⁽⁶⁾

- Notes:
1. Requires EZ hang-straight.

2. Required field for Stem or Chain Mounting Configuration.

3. Minimum 32" Overall Drop Length ("A" Lens). Minimum 25" Overall Drop Length ("FL" Lens).

4. Shade is optional

5. For use with T5 optic only

6. Available with RLM18 and RLM24 only.

How to Order

	PEC	FHD	HSHS			BKT
Optional Control Receptacle ⁽⁷⁾ ⁽⁸⁾ ⁽⁹⁾	Optional Control	Optional Fuse ⁽¹²⁾	Optional Hangstraight	Optional House Side Shield ⁽¹³⁾	Optional Fixed Dimming Resistor Board ⁽¹¹⁾	Finish
R7 7-Pin control receptacle only	PE Twist-Lock Photocontrol (120V-277V) ⁽¹⁰⁾ PE4 Twist-Lock Photocontrol (347V-480V) ⁽¹⁰⁾ SC Shorting Cap ⁽¹⁰⁾ PEC Electronic Button Photocontrol (120V-277V) ⁽¹¹⁾ PEC4 Electronic Button Photocontrol (480V) ⁽¹¹⁾	FHD Double Fuse and Holder	HSHS Standard Horizontal Hangstraight, Spike Finial HSHN Standard Horizontal Hangstraight, No Finial HSHB Standard Horizontal Hangstraight, Ball Finial EZ Vertical Hangstraight, Large, "EZ" Mount ⁽¹¹⁾	HSS 120° House Side Shield	FDRB Fixed Dimming Resistor Board	BKT Black Textured ⁽¹⁴⁾ WHT White Textured ⁽¹⁴⁾ PGT Park Green Textured ⁽¹⁴⁾ ABZT Architectural Medium Bronze Textured ⁽¹⁴⁾ DBT Dark Bronze Textured ⁽¹⁴⁾ CM Custom Match ⁽¹⁵⁾ OI Old Iron ⁽¹⁵⁾ RT Rust ⁽¹⁵⁾ WBR Weathered Brown ⁽¹⁵⁾ CD Cedar ⁽¹⁵⁾ WBK Weathered Black ⁽¹⁵⁾ TT Two Tone ⁽¹⁵⁾ VG Verde Green SI Swedish Iron OWGT Old World Gray Textured

Notes:

7. Not for use with FDRB.

8. Only available with HORIZONTAL hangstraight.

9. Not for use with STEM, CHAIN, CAT, or EZ mounting style.

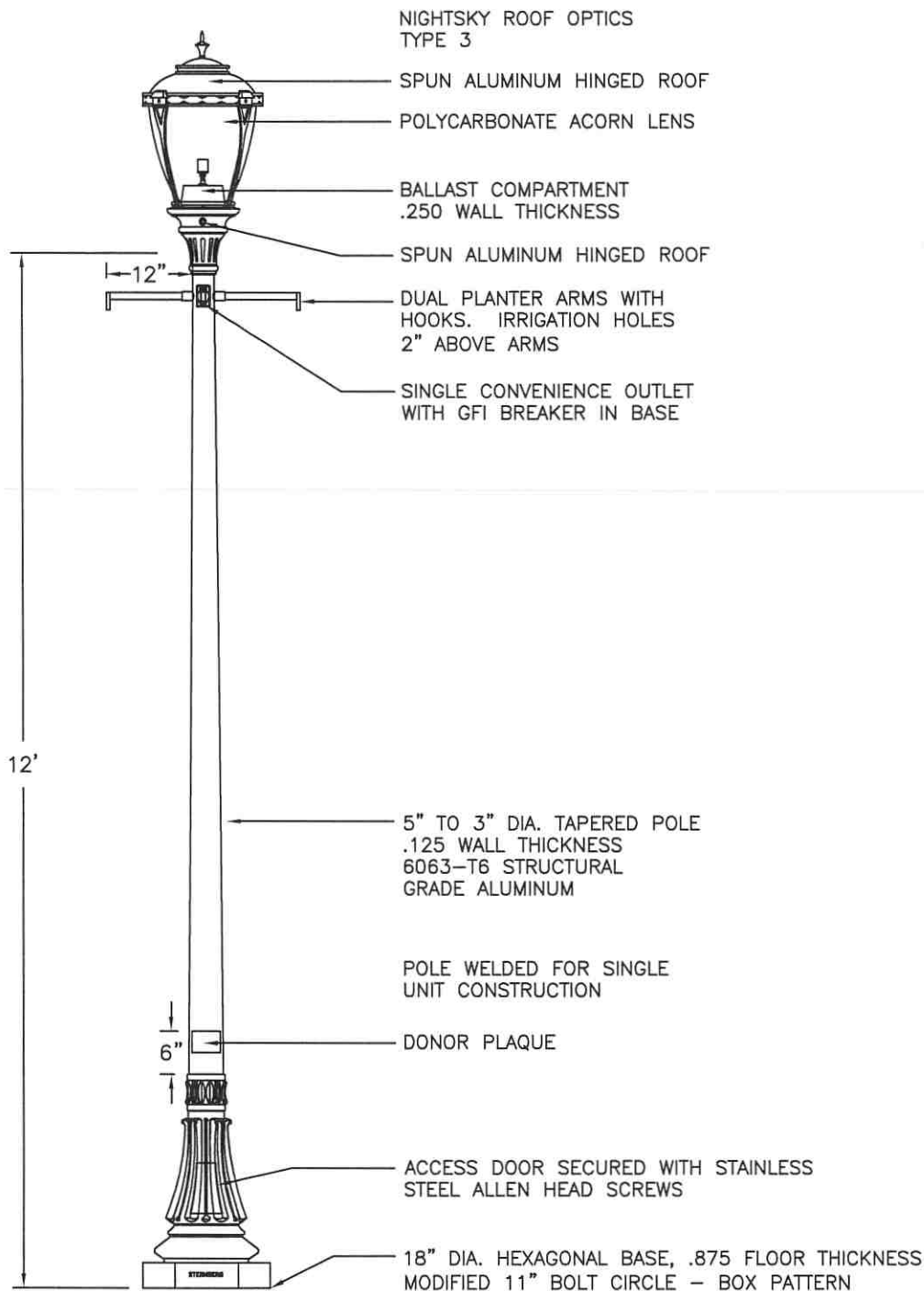
10. Requires control receptacle.

11. Not for use with R7.
12. Ships loose for installation in base.

13. Not for use with T5 optic.

14. Smooth finishes are available upon request.

15. Custom colors require upcharge.



PART#	EA	ASSEM. ID	MATERIAL	PART#	EA	ASSEM. ID	MATERIAL
113409	1		FIXTURE, 150W HPS ACORN TOP				
212607	1		POLE, 12' DECORATIVE, 11" CIRCLE				



DECORATIVE AERIAL STREETLIGHT

DATE	REVISION	APPROVED				
7/13/2012	REVISED TO UPDATE CURRENT STANDARDS	JCD				
			DATE	12/18/06	STERNBERG PART NO. 1130A5P3412T5	
			DRAWN	JJS	APPROVED JCD	SPEC NO. LD2

Existing



1130ALED / 1130BLED RIPON SERIES

LED

EPA
1.28 (ft²)
WEIGHT
42 LBS

7 YEAR
WARRANTY

LUMEN
RANGE
8,160 to
10,225

LIFE SPAN
L70
MINIMUM
100,000
HOURS

UL
LISTED

CLICK
FOR FAQ's

RATED
IP65

JOB NAME

FIXTURE TYPE

MEMO

BUILD A PART NUMBER

ORDERING EXAMPLE: 2A-1130ALED-5P-24L40T5-MDLO14-A-PEC-FHD/80PM/4212FP4/SCC/BKT

Mounting Config.	Fixture	Fitter	LED	CCT	Type	Driver	Lens	Option Control Receptacle	Option Control	Option Fuse	Option GFI	Option Term. Block	Option House Side Shield	Arm See Arm Spec Sheets	Pole See Pole Spec Sheets	Finish

Mounting Configuration

(Click here to link to mounting configuration specification page)

• IW	• 2A	• 3A90	• 1AM
• PT	• 2A90	• 3APT	• 2AM
• 1A	• 2APT	• 4A	• 450PB
• 1APT	• 3A	• 4APT	

W = Wall Mount PT = Post Top A = Arm Mount AM = Arm Mid-Mount PB = Pier Base

Fixture

• 1130ALED	• 1130BLED
------------	------------

Fitter

• 5P	• 992	• 995	• BD7	• C2097
• 990	• 993	• BD4	• OL3	
• 991	• 994	• BD5	• OL4	

LED

• 24L	• 16L	• 12L
-------	-------	-------

CCT - Color Temperature (K)

• 27(00)	• 30(00)	• 35(00)
• 40(00)	• 50(00)	

Type

• T2	• T3	• T4	• T5
------	------	------	------

Driver

- MDLO18¹ (120V-277V, 180mA)
- MDHO18¹ (347V-480V, 180mA)
- MDLO14 (120V-277V, 140mA)
- MDHO14 (347V-480V, 140mA)
- MDLO08² (120V-277V, 80mA)
- MDHO08² (347V-480V, 80mA)

¹ 24L system only.² 12L system only.

Lens

• A (Acrylic)	• P (Polycarbonate)
---------------	---------------------

Options (Click here to view accessories sheet)

- R7³ 7-Pin control receptacle only
- PE⁴ Twist-Lock Photocontrol (120V-277V)
- PE4⁴ Twist-Lock Photocontrol (347V-480V)
- SC² Shorting Cap
- PEC Electronic Button Photocontrol (120V-277V)
- PEC4 Electronic Button Photocontrol (480V)

- FHD⁵ Double Fuse and Holder
- GFI 15A Duplex GFI for Utility Fitter
- TB³ Terminal Block
- HSS House Side Shield
- BLOC Back Light Optical Control

³ For 900 series utility fitter only.⁴ Requires control receptacle.⁵ Ships loose for installation in base.

Arm (Click here to link to arm specification page)

See Arms & Wall Brackets specification sheets.

• 50	• 80	• 6236	• TASC
• 478	• 480	• 579	• BA
• 70	• 55	• TA	

Pole (Click here to link to pole specification page)

See Pole specification sheets.

Finish (Click here to view paint finish sheet)

Standard Finishes⁶

- BKT Black Textured
- WHT White Textured
- PGT Park Green Textured
- ABZT Architectural Medium Bronze Textured
- DBT Dark Bronze Textured

⁶ Smooth finishes are available upon requestCustom Finishes⁷

- CM Custom Match
- OI Old Iron
- RT Rust
- WBR Weathered Brown
- CD Cedar
- WBK Weathered Black
- TT Two Tone

⁷ Custom colors require upcharge.

Sternberg Select Finishes

- VG Verde Green
- SI Swedish Iron
- OWGT Old World Gray Textured

Specifications

Fixture

The luminaire shall feature a fully cast aluminum decorative cage surrounding the acorn. The cage shall consist of 16 Victorian panels

on the ring and 4 slender "Y" shaped supports. The luminaire shall be appointed with a cast aluminum decorative torch finial. The luminaire shall be U.L. listed in U.S. and Canada.

Fitter - Standard

The fitter shall be heavy wall cast aluminum, 356 alloy for high tensile strength. It shall have an 8-1/2" inside diameter opening to attach to the 8" neck of the acorn globe. When ordered with a Sternberg aluminum pole, the fitter shall be welded to the pole top or tenon for safety and to ensure the fixture will be plumb, secure and level over the life of the installation. The fitter shall have a one-piece ring bug gasket to resist insect penetration into lamp assembly.

900 Series Utility Fitter Option

The fitter shall be heavy wall cast aluminum, 360 die cast alloy for high tensile strength. It shall have a 9-1/4" inside diameter opening to attach to the 8" neck of the acorn globe. It shall have a hinged, tool-less entry door that provides open access to all of the components. The 900 series shall have an optional terminal block for ease of wiring, an optional Twist-Lock Photocontrol receptacle, an optional single GFCI outlet for auxiliary power needs. The top mounted driver mounting plate shall be cast aluminum and provide tool-less removal from the housing using 2 finger latches. The fitter shall have a one-piece ring gasket to resist insect penetration into globe assembly. When supplied with GFCI receptacle a hole will be provided for cord and plug installation with the access door closed. When cord and plug is not in use a filler plug will be provided and shall be tethered to the fitter for easy recovery and installation.

LED's

The luminaire shall use high output, high brightness LED's. They shall be mounted in arrays, on printed circuit boards designed to maximize heat transfer to the heat sink surface. The arrays shall be roof mounted to minimize up-light. The LED's and printed circuit boards shall be 100% recyclable; they shall

See next page



SternbergLighting

ESTABLISHED 1923

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www.sternberglighting.com

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1130ALED / 1130BLED RIPON SERIES

LED

also be protected from moisture and corrosion by a conformal coating of 1 to 3 mils. They shall not contain lead, mercury or any other hazardous substances and shall be RoHS compliant. The LED life rating data shall be determined in accordance with IESNA LM-80. The High Performance white LED's will have a life expectancy of approximately 100,000 hours with not less than 70% of original brightness (lumen maintenance), rated at 25°C. The High Brightness, High Output LED's shall be 5000K (4500K, 3000K, 3500K or 2700K option) color temperature with a minimum CRI of 70. Consult factory for custom color CCT. The luminaire shall have a minimum _____ (see table) delivered initial lumen rating when operated at steady state with an average ambient temperature of 25°C (77°F).

Optics

The luminaire shall be provided with individual, acrylic, refractor type optics applied to each LED. The luminaire shall provide Type _____ (2, 3, 4 & 5) light distribution per the IESNA classifications. Testing shall be done in accordance with IESNA LM-79.

BLOC Optic: An optional "Back Light Optical Control" shield can be provided at the factory.

This is an internal optic level "House Side Shield" offering significantly reduced back-light and glare while maintaining the original design aesthetics of the luminaire.

Electronic Drivers

The LED driver shall be U.L. Recognized. It shall be securely mounted inside the fixture, for optimized performance and longevity. It shall be supplied with a quick-disconnect electrical connector on the power supply, providing easy power connections and fixture installation. It shall have overload as well as short circuit protection, and have a DC voltage output, constant current design, 50/60HZ. It shall be supplied with line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines. It shall be dimmable using a 0-10V signal.

For sources over 50w: The driver shall have a minimum efficiency of 90%. The driver shall be rated at full load with THD<20% and a power factor of greater than 0.90. The driver shall contain over-heat protection.

For sources under 50w: The driver shall have a minimum efficiency of 88%.

Photocontrols

Button Style: On a single assembly the photocontrol shall be mounted on the fixture and pre-wired to driver. On multiple head assembly's the photocontrol shall be mounted in the pole shaft on an access plate. The electronic button type photocontrol is instant on with a 5-10 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles. Photocontrol is 120-277 volt and warranted for 6 years.

Twist-Lock Style: The photocontrol shall be mounted in the utility fitter and pre-wired to driver. The twist lock type photocontrol is instant on with a 3-6 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles. Photocontrol is 120-277 volt and warranted for 6 years.

Warranty

Seven-year limited warranty. See product and finish warranty guide for details.

Finish

Refer to website for details.

Performance

MODEL #	T2 DELIVERED LUMENS	EFFICACY (LPW)	T3 DELIVERED LUMENS	EFFICACY (LPW)	T4 DELIVERED LUMENS	EFFICACY (LPW)	T5 DELIVERED LUMENS	EFFICACY (LPW)	WATTAGE
24L40T -MDL018	9470	78.9	9465	78.9	9750	81.3	10225	85.2	120
24L30T -MDL018	9030	75.3	9025	75.2	9295	77.5	9750	81.3	120
24L27T -MDL018	8165	68.0	8160	68.0	8405	70.0	8815	73.5	120
24L40T -MDL014	7720	85.8	7720	85.8	8025	89.2	8425	93.6	90
24L30T -MDL014	7360	81.8	7360	81.8	7650	85.0	8035	89.3	90
24L27T -MDL014	6655	73.9	6655	73.9	6920	76.9	7265	80.7	90
16L40T -MDL014	5220	85.6	5145	84.3	5450	89.3	5675	93.0	61
16L30T -MDL014	4975	81.6	4905	80.4	5195	85.2	5410	88.7	61
16L27T -MDL014	4500	73.8	4435	72.7	4700	77.0	4890	80.2	61
12L40T -MDL014	3930	83.6	3910	83.2	4085	86.9	4270	90.9	47
12L30T -MDL014	3745	79.7	3730	79.4	3895	82.9	4070	86.6	47
12L27T -MDL014	3390	72.1	3370	71.7	3520	74.9	3680	78.3	47
12L40T -MDL008	2415	89.4	2400	88.9	2510	93.0	2635	97.6	27
12L30T -MDL008	2305	85.4	2290	84.8	2395	88.7	2510	93.0	27
12L27T -MDL008	2080	77.0	2070	76.7	2165	80.2	2270	84.1	27



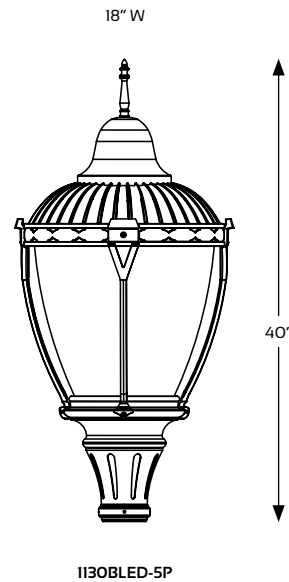
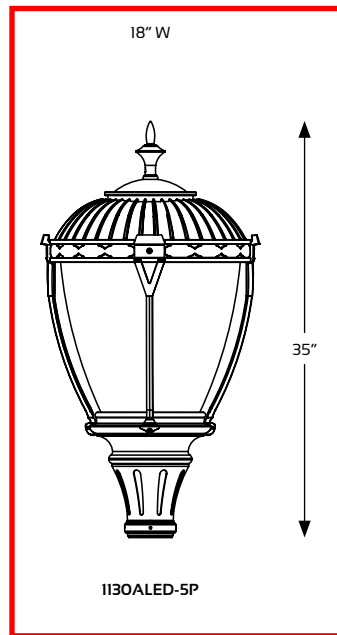
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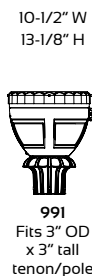
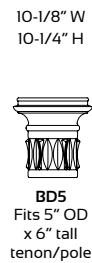
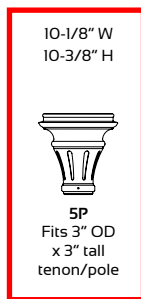
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Fixtures



Fitters



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Appendix B: Lighted Bollard Specification Sheets



3401LED GEORGETOWN SERIES

LED BOLLARDS

DIMENSIONS
17-3/4" Ø
44" to 96"
TALL

7 YEAR WARRANTY

LUMEN RANGE
520-590

LIFE SPAN
L70
MINIMUM
100,000
HOURS

UL LISTED

CLICK FOR FAQ's

JOB NAME

FIXTURE TYPE

MEMO

BUILD A PART NUMBER

ORDERING EXAMPLE: 3401LED-48"-IL40TS-MDL07-CL2/BKT

Model	Overall Height	LED	CCT	Type	Driver	Option Chain Loop	Option Fuse	Option Photocell	Option Receptacle	Finish

Model

• 3401LED • 3401LED-QR

Overall Height (In Inches)

• __" (Available from 44" to 96")

LED

• IL

CCT - Color Temperature (K)

• 27(00) • 30(00) • 35(00) • 40(00) • 50(00)

Type

• TS (Symmetric)

Driver

• MDL07 (120V-277V, 700mA)
• MDH07 (347V-480V, 700mA)

Options (Click here to view accessories sheet)

- CL1 Single Chain Loop
- CL2 Double Chain Loops at 180°
- FHD¹ Double Fuse and Holder
- PCD² Electronic Button Photocontrol, mounted on an access door (120V-277V)
- PCD4² Electronic Button Photocontrol, mounted on an access door (480V)
- GFI LPIUC² 15 Amp duplex GFCI receptacles with a low-profile in-use cover
- GFI IUC² 15 Amp duplex GFCI receptacles with a standard in-use cover
- USB LPIUC² 15 Amp duplex USB/Receptacle combo with a low-profile in-use cover (NON-GFI)
- USB IUC² 15 Amp duplex USB/Receptacle combo with a standard in-use cover (NON-GFI)
- GFI IB³ 15 Amp duplex GFCI receptacle in pole base, includes mouse hole on door for wire access.

- USB IB³ 15 Amp duplex USB/Receptacle combo in pole base, includes mouse hole on door for wire access (NON-GFI)

¹ Ships loose for installation in base.

² Accessory requires 60" minimum height.

³ Cannot be used with QR (Quick-Release) option.

Finish

Standard Finishes⁴ (Click here to view paint finish sheet)

- BKT Black Textured
- WHT White Textured
- PGT Park Green Textured
- ABZT Architectural Medium Bronze Textured
- DBT Dark Bronze Textured

⁴ Smooth finishes are available upon request.

Sternberg Select Finishes

- VG Verde Green
- SI Swedish Iron
- OWGT Old World Gray Textured

Custom Finishes⁵

- CM Custom Match
- OI Old Iron
- RT Rust
- WBR Weathered Brown
- CD Cedar
- WBK Weathered Black
- TT Two Tone

⁵ Custom colors require upcharge.

Specifications

General

Traditional ornamental cast aluminum bollard with removable cap. The bollard includes 12 vertical slots and an internal white acrylic lens which creates uniform illumination with a high level of visual comfort. The bollard shall be UL listed in US and Canada.

Construction

The bollard is made of heavy wall 356 alloy cast aluminum with a 3/4" thick floor cast as an integral part of the bollard. The high tensile aluminum shaft shall be double circumferentially welded internally and externally to the bollard for added strength. The removable bollard cap is cast aluminum.

Quick-Release Mounting (Optional)

The bollard can include an optional quick release mount in lieu of anchor bolts, which allows for tool-less removal of the bollard for convenience or emergency access. The burial portion shall be installed in ground flush with grade, it shall be made of aluminum extrusion and shall have a wiring compartment, keyway and flexible aircraft cable connection system for securing the bollard to the ground. The removable bollard portion shall have a mated extension and anti-rotation key, along with a slot in the base for a lock to externally attach to the aircraft cable loop (LOCK BY OTHERS). The system comes with a quick release power connection for safety.

LED's

The luminaire shall use high output, high brightness LED's, consisting of a two piece assembly complete with Chip on Board (COB) LED component and COB holder frame. The LED's and printed circuit boards shall be 100% recyclable; they shall also be protected from moisture and corrosion by a conformal coating of 1 to 3 mils. They shall not contain lead, mercury or any other hazardous substances and shall be RoHS compliant. The LED life rating data shall be determined in accordance with IESNA LM-80. The High Performance white LED's will have a life expectancy of approximately 100,000 hours with not less than 70%
See next page



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of original brightness (lumen maintenance), rated at 25°C. The High Brightness, High Output LED's shall be 4000K (2700K, 3000K, 3500K or 5000K option) color temperature with a minimum of 70 CRI. Consult factory for custom color CCT. The luminaire shall have a minimum _____ (see table) delivered initial lumen rating when operated at steady state with an average ambient temperature of 25°C (77°F)

Optics

The luminaire shall be provided with an individual collimating type acrylic optic applied to the COB (Chip On Board) LED assembly. The luminaire shall provide a symmetric distribution with near perfect surface brightness and uniformity.

Electronic Driver

The LED driver shall be U.L. Recognized. It shall be securely mounted inside the bollard, for optimized performance and longevity. It shall be supplied with a quick-disconnect electrical connector on the power supply, providing easy power connections and fixture installation. It shall have overload, overheat and short circuit protection, and have a DC voltage output, constant current design, 50/60HZ. It shall be supplied with line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines. It shall be a high efficiency driver with a THD less than 20% and a high power factor greater than .9. It shall be dimming capable using a 0-10v signal, consult factory for more information.

Installation

Four 1/2" diameter, hot-dipped galvanized "L" type anchor bolts shall be provided with the bollard for anchorage, they shall be mounted in a 12" bolt circle. A door shall be provided for wiring and anchor bolt access. It shall be secured with tamper proof stainless steel hardware. Post will be provided with a grounding stud mounted on the base floor opposite the access door.

Photocell

The photocontrol shall be mounted on the bollard. The electronic button type photocontrol is instant on with a 5-10 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles. Photocontrol is 120-277 volt and warranted for 6 years.

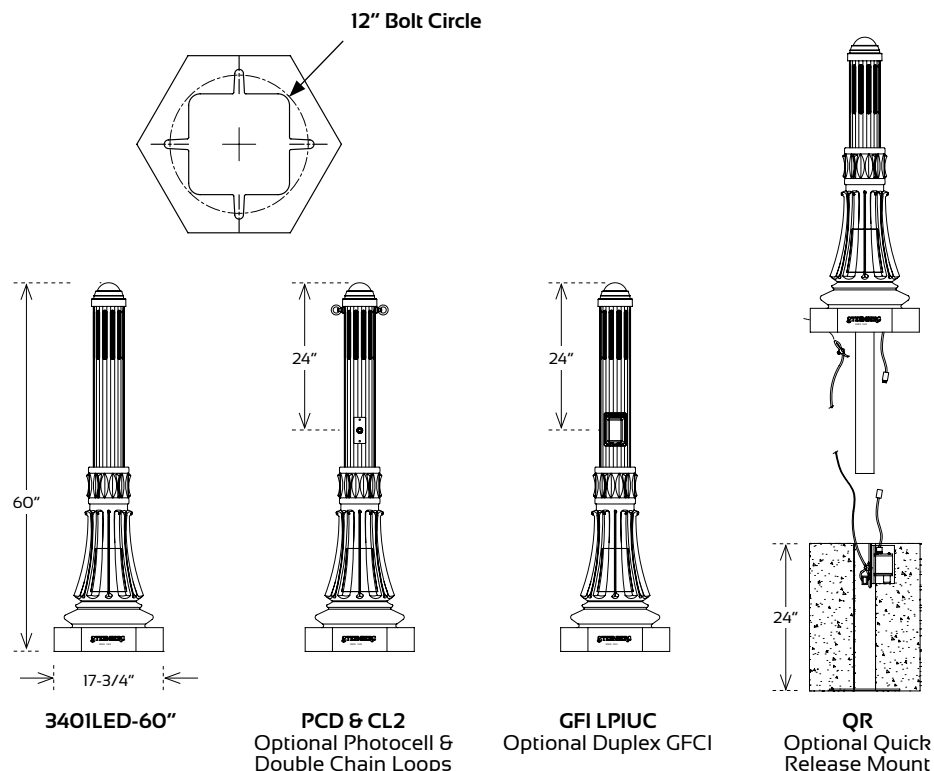
Warranty

Seven-year limited warranty. See product and finish warranty guide for details.

Finish

Refer to website for details.

Bollards



Performance

LIGHT SOURCE	TS DELIVERED LUMENS	EFFICACY (LPW)	WATTAGE
1L40TS-MDL07	590	19.7	30
1L30TS-MDL07	575	19.2	30
1L27TS-MDL07	520	17.3	30



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4555LED PARKSIDE SERIES

LED BOLLARDS

DIMENSIONS
9" Ø
24" to 96"
TALL

**7 YEAR
WARRANTY**

**LUMEN
RANGE**
520-590

LIFE SPAN
L70
MINIMUM
100,000
HOURS

**UL
LISTED**

**CLICK
FOR FAQ's**

JOB NAME

FIXTURE TYPE

MEMO

BUILD A PART NUMBER

ORDERING EXAMPLE: 4555LED-42"-1L40TS-MDL07-CL2/BKT

Model	Overall Height	LED	CCT	Type	Driver	Option Chain Loop	Option Fuse	Option Photocell	Option Receptacle	Finish

Model

- 4555LED

Overall Height (In Inches)

- __" (Available from 24" to 96")

LED

- 1L

CCT - Color Temperature (K)

- 27(00) • 30(00) • 35(00) • 40(00) • 50(00)

Type

- TS (Symmetric)

Driver

- MDL07 (120V-277V, 700mA)
- MDH07 (347V-480V, 700mA)

Options (Click here to view accessories sheet)

- CL1 Single Chain Loop
- CL2 Double Chain Loops at 180°
- FHD¹ Double Fuse and Holder
- PCD² Electronic Button Photocontrol, mounted on an access door (120V-277V)
- PCD4² Electronic Button Photocontrol, mounted on an access door (480V)
- GFI LPIUC² 15 Amp duplex GFCI receptacles with a low-profile in-use cover
- GFI IUC² 15 Amp duplex GFCI receptacles with a standard in-use cover
- USB LPIUC² 15 Amp duplex USB/Receptacle combo with a low-profile in-use cover
- USB IUC² 15 Amp duplex USB/Receptacle combo with a standard in-use cover

¹ Ships loose for installation in base.

² Accessory requires 30" minimum height.

Finish

Standard Finishes³ (Click here to view paint finish sheet)

- BKT Black Textured
- WHT White Textured
- PGT Park Green Textured
- ABZT Architectural Medium Bronze Textured
- DBT Dark Bronze Textured

³ Smooth finishes are available upon request.

Sternberg Select Finishes

- VG Verde Green
- SI Swedish Iron
- OWGT Old World Gray Textured

Custom Finishes⁴

- CM Custom Match
- OI Old Iron
- RT Rust
- WBR Weathered Brown
- CD Cedar
- WBK Weathered Black
- TT Two Tone

⁴ Custom colors require upcharge.

Specifications

General

Traditional ornamental cast aluminum bollard with removable cap. The bollard includes 12 vertical slots and an internal white acrylic lens which creates uniform illumination with a high level of visual comfort. The bollard shall be UL listed in US and Canada.

Construction

The bollard is made of heavy wall 356 alloy cast aluminum with a 3/4" thick floor cast as an integral part of the bollard. The high tensile 5" aluminum shaft shall be double circumferentially welded internally and externally to the bollard for added strength. The removable bollard cap is cast aluminum.

LED's

The luminaire shall use high output, high brightness LED's, consisting of a two piece assembly complete with Chip on Board (COB) LED component and COB holder frame. The LED's and printed circuit boards shall be 100% recyclable; they shall also be protected from moisture and corrosion by a conformal coating of 1 to 3 mils. They shall not contain lead, mercury or any other hazardous substances and shall be RoHS compliant. The LED life rating data shall be determined in accordance with IESNA LM-80. The High Performance white LED's will have a life expectancy of approximately 100,000 hours with not less than 70% of original brightness (lumen maintenance), rated at 25°C. The High Brightness, High Output LED's shall be 4000K (2700K, 3000K, 3500K or 5000K option) color temperature with a minimum of 70 CRI. Consult factory for custom color CCT. The luminaire shall have a minimum _____ (see table) delivered initial lumen rating when operated at steady state with an average ambient temperature of 25°C (77°F)

Optics

The luminaire shall be provided with an individual collimating type acrylic optic applied to the COB (Chip On Board) LED assembly. The luminaire shall provide a symmetric distribution with near perfect surface brightness and uniformity.

Electronic Driver

The LED driver shall be U.L. Recognized. It shall be securely mounted inside the bollard, for optimized performance and longevity. It shall be supplied with a quick-disconnect electrical connector on the power supply, providing

See next page



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easy power connections and fixture installation. It shall have overload, overheat and short circuit protection, and have a DC voltage output, constant current design, 50/60HZ. It shall be supplied with line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines. It shall be a high efficiency driver with a THD less than 20% and a high power factor greater than .9. It shall be dimming capable using a 0-10v signal, consult factory for more information.

Installation

Four 1/2" diameter, hot-dipped galvanized "L" type anchor bolts shall be provided with the bollard for anchorage, they shall be mounted in a 7" bolt circle. The bollard will be provided with a slipping base cover which shall be secured with tamper proof stainless steel hardware, the baseplate includes a grounding stud.

Photocell

The photocontrol shall be mounted on the bollard. The electronic button type photocontrol is instant on with a 5-10 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles. Photocontrol is 120-277 volt and warranted for 6 years.

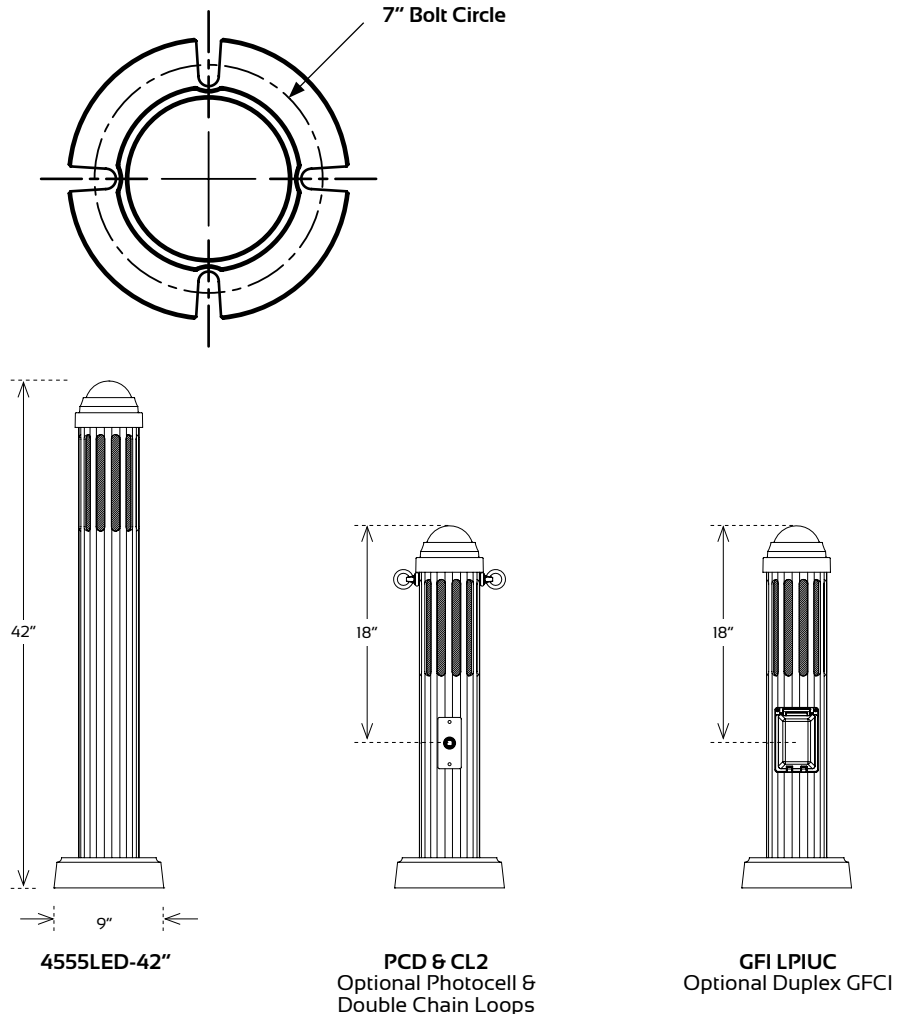
Warranty

Seven-year limited warranty. See product and finish warranty guide for details.

Finish

Refer to website for details.

Bollards



Performance

LIGHT SOURCE	TS DELIVERED LUMENS	EFFICACY (LPW)	WATTAGE
1L40TS-MDL07	590	19.7	30
1L30TS-MDL07	575	19.2	30
1L27TS-MDL07	520	17.3	30



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Catalog Number	
Notes	Type

WDBOLED

Wadsworth LED Series:
Cast Aluminum Bollard



General Description

The Wadsworth is a decorative bollard which provides a fully integrated LED solution to complement the full line of decorative posts by transitioning flawlessly from the street to pedestrian walkway.

While maintaining the period style, the electronics are engineered to provide energy-efficient lighting and minimize maintenance components. Our bollards offer superior finish through the application of a polyester powder coat finish.

Intended use: Bollard for city streetscapes, public areas and parks, higher education campuses, paths and walkways.

Mechanical Specifications

The luminaire housing shall:

- Be heavy grade A356.1 cast aluminum (aluminum with <1% copper)
- Wet locations listed
- One-piece casting with a removable top
- Optical assembly is secured inside the shaft
- All welding shall be per ANSI/AWS D1.2-90
- All welders shall be certified per Section 5 of ANSI/AWS D1.2-90
- (4) ¾" diameter by 18" long, hot dip galvanized L-type anchor bolts are provided and are to be installed on a 10.5" bolt circle
- Access door opening for anchor bolts and wiring access is 3" x 5" x 4.5"
- Optional Field or Factory installed hot-dip galvanized direct burial base for mounting without a concrete footing

The finish shall:

- Utilize a polyester powder coat paint to ensure maximum durability.
- Rigorous multi-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5000 hours exposure to salt fog chamber (operated per ASTM B117) on standard and RAL finish options.
- RAL (RALxxxxSDCR) paint colors are Super Durable Corrosion Resistant, 80% gloss.

Electrical Specifications

The driver shall meet the following requirements:

- Certified by UL or CSA for wet locations
- A factory programmable electronic driver with 0-10V dimming
- LEDs shall have a minimum of 70 CRI and available in 2700K, 3000K and 4000K CCT
- The electrical system shall be designed to meet ANSI/IEEE C62.41.2 and shall offer a 10kV/5kA surge protection, fail off, as standard with an optional 20kV/10kA surge protection, fail off with indicator light, option
- Optional GFI receptacle with wet-location cover, not CSA listed

Optical Specifications

- IP65 light engine
- Type 5 distribution with a translucent smooth white acrylic outer lens

Control Options

The control options shall include, but not limited to, the following:

- Field adjustable output to adjust output to luminaire - AO
- Button style photocontrol

Certification and Standards

- UL 1598 - Wet Locations Safety Listing
- Suitable for ambient temperatures -40°C to 40°C

Warranty

5-year limited warranty. Complete warranty terms located at:

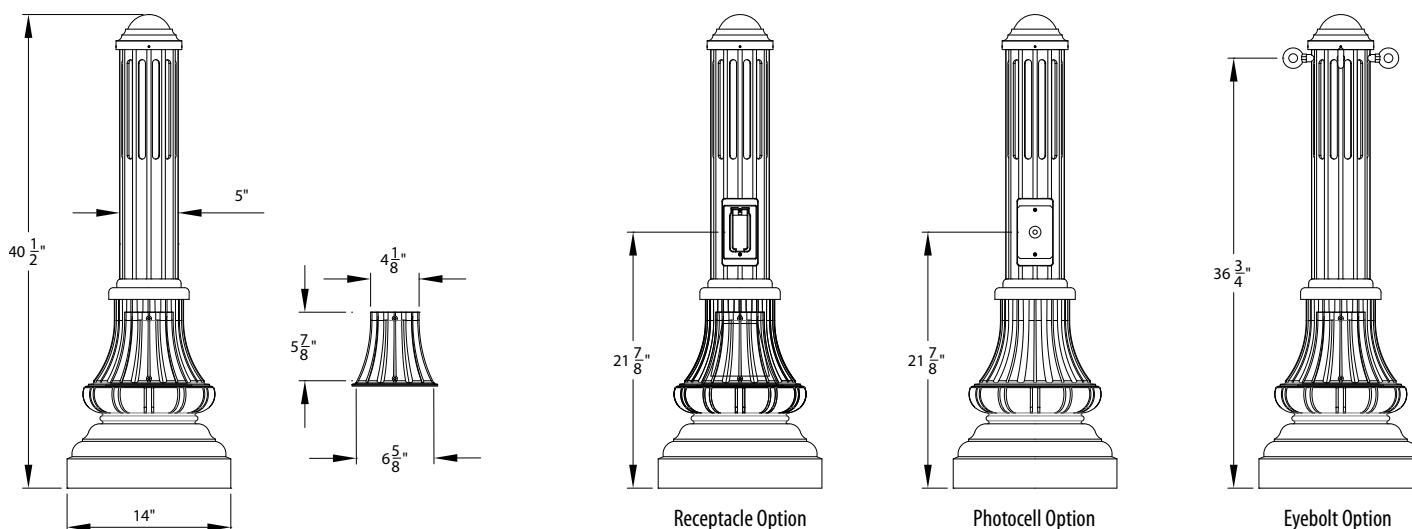
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

Important Installation Notes:

- Factory-supplied templates must be used when setting anchor bolts. Acuity Brands Lighting will not accept claim for incorrect anchorage placement due to failure to use factory template.
- Acuity Brands Lighting is not responsible for the foundation design.

DIMENSIONAL DATA



Maximum standard weight - 43 lbs.
Maximum weight with Direct Burial Base Option - 43 lbs.

(more than 1 can be specified)

WDBOLED

Wadsworth LED Series: Cast Aluminum Bollard



ORDERING INFORMATION

Example: WDBOLED CA P40 30K MVOLT NIOS AWS BK EB36B EB36D

Series	Material	LED Performance Package	Color Temperature	Voltage	Optics
WDBOLED	CA Cast Aluminum	P10 12 watts P20 19 watts P30 25 watts P40 32 watts	27K 2700K 30K 3000K 40K 4000K	MVOLT Auto-sensing voltage (120 thru 277) 50/60 HZ HVOLT Auto-sensing voltage (347-480) 50/60 HZ 120V 120V 50/60 HZ 277V 208-277V 50/60 HZ 347V 347V 50/60 HZ	NIOS No internal reflector, Type 5

Lens	Color	Options / Controls
AWS Acrylic White Smooth translucent outer lens	BK Black BZ Bronze GH Graphite GN Green GR Grey PP Primer Paint WH White CMC Custom Match Color RALxxxxSDCR RAL Super Durable Corrosion Resistant, 80% Gloss Paint, replace xxxx with RAL number. XX Standard Finish, TBD	AO Field adjustable output device EB36A Eyebolt (for chain by others) at 36" and 0° counterclockwise from door EB36B Eyebolt (for chain by others) at 36" and 90° counterclockwise from door EB36C Eyebolt (for chain by others) at 36" and 180° counterclockwise from door EB36D Eyebolt (for chain by others) at 36" and 270° counterclockwise from door PEC1 Button style photocontrol (120V) PEC2 Button style photocontrol (208V-277V) PEC3 Button style photocontrol (347V) DBB Factory Installed direct burial base for mounting without a concrete footing FGE GFI receptacle externally mounted with wet-location cover (120V) PIHEX Security Screws - Pin in hex exterior fasteners TB 3 position terminal block 20KV Extreme surge protection 20kV/10kA, fail off with indicator light

Accessories: Order as separate catalog number.	
ADBB2R3	Bolt on 24" long, 3.5" Schedule 40 hot-dip galvanized steel pipe with 2" x 8" wireway opening: attachment hardware included
AB-31-4	Anchor bolt set
TMP-78	Anchor bolt template

OPTIONS MATRIX

Mounting		Performance Package				Voltage					Optic	Lens	Options													
		P10	P20	P30	P40	MVOLT	HVOLT	120V	277V	347V	NI05	AWS	AO	DBB	EB36A	EB36B	EB36C	EB36D	FGE	PEC1	PEC2	PEC3	PIHEX	TB	20KV	
Performance Package	P10		N	N	N	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	P20	N		N	N	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	P30	N	N		N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	P40	N	N	N		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Voltage	MVOLT	Y	Y	Y	Y		N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	
	HVOLT	N	N	Y	Y	N		N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	
	120V	Y	Y	Y	Y	N	N		N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	
	277V	Y	Y	Y	Y	N	N	N		N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	
	347V	N	N	Y	Y	N	N	N	N		Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	
Optic	NI05	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Lens	AWS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Options	AO	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	
	DBB	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	EB36A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	EB36B	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	
	EB36C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	
	EB36D	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	
	FGE	Y	Y	Y	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PEC1	Y	Y	Y	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y		N	N	Y	Y	Y	
	PEC2	Y	Y	Y	Y	N	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N		N	Y	Y	Y	
	PEC3	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N		Y	Y	Y	
	PIHEX	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	
	TB	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	
	20KV	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		

LUMEN AMBIENT TEMPERATURE (LAT) MULTIPLIERS

Use the factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient Temp		Lumen Multiplier
°C	°F	P10 - P40
0	32	1.04
5	41	1.03
10	50	1.02
15	59	1.02
20	68	1.01
25	77	1.00
30	86	0.99
35	94	0.98
40	104	0.97

PROJECTED LED LUMEN MAINTENANCE

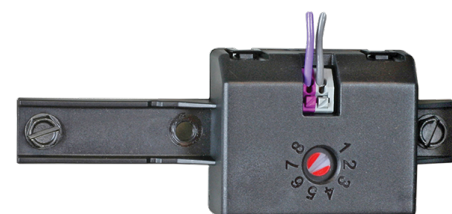
Data references the extrapolated performance projections for the platforms noted in 25°C ambient, based on 6,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11). To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Lumen Maintenance - LLD (Same for all LED packages)									L70 Hrs
P10 - P40	Hours	0	25,000	36,000	50,000	60,000	75,000	100,000	
	Factor	1	0.97	0.96	0.95	0.94	0.93	0.91	> 60,000

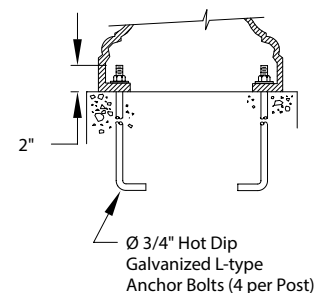
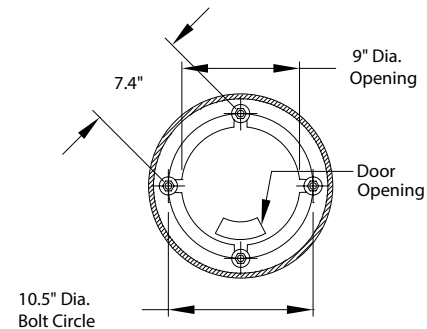
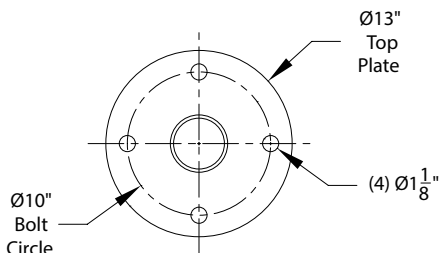
PERFORMANCE DATA

Performance Package	Distribution	Input Watts	27K (2700K CCT, 70 CRI)					30K (3000K CCT, 70 CRI)					40K (4000K CCT, 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P10	NI05 AWS	11	859	78	0	3	1	870	79	0	3	1	916	83	0	3	1
P20	NI05 AWS	19	1,338	70	1	4	1	1,356	71	1	4	1	1,427	75	1	4	1
P30	NI05 AWS	24	1,738	72	1	4	2	1,761	73	1	4	2	1,853	77	1	4	2
P40	NI05 AWS	29	2,119	73	1	4	2	2,147	74	1	4	2	2,259	78	1	4	2

COMPONENTS & OPTIONS DATA



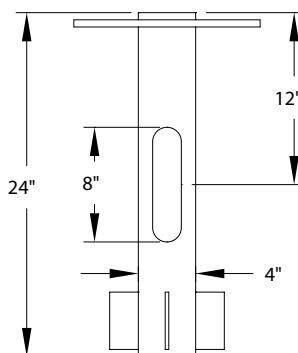
A0
Manual field adjustable output dimming device



Base Detail



20KV
Safeguard your investment from extreme voltage spikes with our new Extreme 20kV/10kA SPD



DBB
Direct Burial Base

Weight - 30 lbs.

Appendix C: Dark Sky Compliant Luminaire Options

Project Name

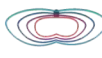
Qty

Type

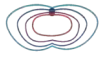
Catalog / Part Number



Distribution Type



Type 2



Type 3



Type 4



Type 5

CCT - Color Temp (K)



2,700K



3,000K



3,500K



4,000K



5,000K

7 Year Warranty



IP Rating



Certifications



Description

The 1910LED series is a medium scale decorative pendant luminaire which consists of a decorative cast aluminum fitter, and optional heavy gauge spun aluminum shade with integral lens frame. The optical enclosure is sealed against moisture and dust penetration.

Features

Mounting Configuration 1W: Wall Mount 2A: 2 Arm Mount @ 180° 3A: 3 Arms @ 120° 4A: 4 Arms @ 90° 2AM: 2 Arm Mid-Mount @180° CH44: Chain Hung 1A: 1 Arm Mount 2A90: 2 Arm Mount @ 90° 3A90: 3 Arms @ 90° 1AM: 1 Arm Mid-Mount SH44: Stem Hung CAT: Catenary	
Optional Control Receptacle	R7: 7-Pin control receptacle only
Optional Control	PE: Twist-Lock Photocontrol (120V-277V) PE4: Twist-Lock Photocontrol (347V-480V) SC: Shorting Cap PEC: Electronic Button Photocontrol (120V-277V) PEC4: Electronic Button Photocontrol (480V)
Optional Fuse	FHD: Double Fuse and Holder
Optional Hangstraight	HSHS: Standard Horizontal Hangstraight, Spike Finial HSHN: Standard Horizontal Hangstraight, No Finial HSHB: Standard Horizontal Hangstraight, Ball Finial EZ: Vertical Hangstraight, Large, "EZ" Mount
Optional House Side Shield	HSS: 120° House Side Shield
Optional Fixed Dimming Resistor Board	FDRB: Fixed Dimming Resistor Board

Physical

Fixture

1910LED: Acorn, Medium

Shade	LBS: Short Shade, Reno
	LB: Medium Shade, Lake Bluff
	LBL: Large Shade, Lake Bluff
	RLM18: 18" RLM Shade, Park Ridge
	RLM24: 24" RLM Shade, Park Ridge
	RLM32: 32" RLM Shade, Park Ridge
Lens	A: Acrylic Clear Teardrop
	P: Poly Clear Teardrop
	FL: Flat Lens
Finish	BKT: Black Textured
	WHT: White Textured
	PGT: Park Green Textured
	ABZT: Architectural Medium Bronze Textured
	DBT: Dark Bronze Textured
	CM: Custom Match
	OI: Old Iron
	RT: Rust
	WBR: Weathered Brown
	CD: Cedar
	WBK: Weathered Black
	TT: Two Tone
	VG: Verde Green
	SI: Swedish Iron
	OWGT: Old World Gray Textured

Light Source

LED	1L: 1 LED	
CCT - Color Temp (K)	27: 2,700K	30: 3,000K
	35: 3,500K	40: 4,000K
	50: 5,000K	
Distribution Type	T2: Type 2	T3: Type 3
	T4: Type 4	T5: Type 5

Electrical and control

Driver	MDL03: 120V-277V, 300mA	MDH03: 347V-480V, 300mA
	MDL06: 120V-277V, 600mA	MDH06: 347V-480V, 600mA
	MDL09: 120V-277V, 900mA	MDH09: 347V-480V, 900mA
	MDL12: 120V-277V, 1200mA	MDH12: 347V-480V, 1200mA
	MDL16: 120V-277V, 1600mA	MDH16: 347V-480V, 1600mA

Specifications

Housing	Cast Aluminum housing with an anodized aluminum heat sink.
Hang-Straight	A hang-straight transition is required for most hanging mounting configurations.
	The Standard (HSNx) is a cast aluminum ball and swivel horizontal hang-straight. Available with a spike (S), a ball (B), or no finial (N). The hang-straight slips a 4" long by 2-3/8" OD horizontal tenon.
	The (EZ) is a cast stainless steel ball and swivel vertical hang-straight. The special 2-part design allows for easy installation. It is factory installed under an arm and on the fixture.
Catenary Mount	The Catenary mount option includes a cast aluminum span wire clamp, which accommodates cables 1/4"-5/8" in diameter. Below the clamp is a decorative cast aluminum wire box and cover which transitions to the EZ vertical Hangstraight for fixture attachment. Aircraft Cable by others.

Lens	Clear textured acorn offered in impact resistant DR acrylic or UV stabilized polycarbonate material. An injection molding process adds a textured surface for glare mitigation.
Shades	Optional heavy gauge spun aluminum shades in a variety of styles adds decorative elements and helps control up light. Existing shades on site CANNOT be reused, a NEW shade must be ordered.
Hardware	Includes Stainless steel hardware. Most finishes will include hardware with a Black Oxide conversion coating. Light finishes will get non-color coated hardware (Whites and Silvers)
UL Listing	UL listed per UL1598 and CSA 22.2 No. 250.0 for the United States and Canada. Suitable for Wet Locations.
Electronic Driver	The LED driver is UL recognized and will be securely mounted inside the fixture, for optimized performance and longevity. It will be supplied with a quick-disconnect electrical connector on the power supply, providing easy power connections for fixture installation and maintenance. It will have DC voltage output and be a constant current design. It runs at 50/60HZ and will have overload, overheat, and short circuit protection. It will be supplied with a supplemental line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines. It will be a high efficiency driver with a THD less than 20% and a high-power factor greater than .9. It will be dimming capable using a 0-10V signal, consult factory for more information.
IP Rating	IP66 rated
Finish	Our 6 Stage Polyester Powder coat paint system offers a beautiful high-end finish that holds up to even the most extreme environments. Each part is inspected for quality and consistency before being released for shipment. Our system exceeds AAMA 2604, AAMA 2605, ASTM D523 and ASTM D4214 requirements.
Traditional Finish	Traditional paint finishes are available in Sternberg Lighting's Traditional product line. A range of colors help accent the decorative elements on the product. Finishes are available in textured or smooth. Available finishes include: Black, White, Park Green, Architectural Medium Bronze and Dark Bronze
Sternberg Select Finish	The Sternberg Select antique-inspired palette adds a touch of vintage elegance to modern applications. Old World Gray Textured is a 1 part powder coat with metallic flakes. Verde Green and Swedish Iron is a 2 part finish that includes a powder coat base coat with a hand applied antique top coat. The top coat is unique to each application and changes over time.
Custom Finish	Custom finishes are offered to adapt to any application. Rust, Weathered Brown and Cedar are special 1 part powder coat finishes with a distinctive look. Old Iron and Weathered Black are 2 part finishes that includes a powder coat base coat with a hand applied antique top coat. The top coat is unique to each application and changes over time. Two-Tone and Custom Match options are available to blend sternberg product with the site, consult factory for more information.
Warranty	7-year limited warranty. See Website for Terms and Conditions.
LEDs	The luminaire shall use high output, high brightness LED's, consisting of a two piece assembly complete with Chip on Board (COB) LED component and COB holder frame. The LEDs shall be 100% recyclable; not contain lead, mercury or any other hazardous substances and shall be RoHS compliant. Lumen maintenance shall be determined in accordance with IESNA TM-21, based on LED manufacturer LM-80 test data of no less than 6,000 hours and in-situ testing of the luminaire by an NVLAP accredited Energy Efficient Lighting Products lab. The high-performance white LEDs will have a predicted lumen depreciation of approximately 100,000 hours with greater than 70% of initial output at 25°C. The High Brightness, High Output LED's shall be 4000K (2700K, 3000K, 3500K or 5000K option) correlated color temperature (CCT) with a 70 (minimum) color rendering index (CRI). Consult factory for custom color CCT. The luminaire shall have a minimum _____ (see table) delivered initial lumen rating when operated at steady state with an average ambient temperature of 25°C (77°F). CCT Lumen Derate Values from 4,000K 2,700K (80+ CRI)=.89 3,000K (70+ CRI)=.97 3,500K (80+ CRI)=.93 5,000K (70+ CRI)=1.01
Optics	The luminaire shall be provided with individual, refractor type optics applied to each LED. The luminaire shall provide Type ____ (2, 3, 4 or 5) light distribution per the IESNA classifications. Testing shall be done in accordance with IESNA LM-79.

Backlight Optical Control	Internal House Side Shield (HSS): An optional INTERNAL 120° House Side Shield helps control backlight. Spun aluminum panel painted to match fixture.
Fixed Dimming Resistor Board (FDRB)	Optional numbered 10-step selector switch allows for fine adjustment of the light levels in the field, repeatable from location to location. Offers dimming from 25% to 100% of the original output. Enclosure is composite material, sealed to protect components for the life of the product.
Photocontrols	Button Photocell: The photocontrol will be mounted on the fixture and pre-wired to driver. The electronic button type photocontrol is instant on and will turn on at 1.5 footcandles and will turn off at 2-3 footcandles. See pole spec sheet for pole mounted version. Twist-Lock Style (Hangstraight Mount): The photocontrol shall be mounted externally on the hangstraight and pre-wired to driver. The twist lock type photocontrol is instant on with a 3-6 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles. If an R7 is specified alongside a BALL or SPIKE style finial on hang-straight, a decorative cap (with window) is included to cover a STANDARD photocell. Use the NO FINIAL hangstraight option if the R7 is for use with a WIRELESS CONTROLLER.

EPA & Weight Chart

Fixture	1910LED-A	1910LEDRLM18-A	1910LEDRLM24-A	1910LEDRLM32-A
EPA (FT ²)	0.64	0.71	0.79	0.77
Weight (LBS)	23.34	27.52	30.39	33.72

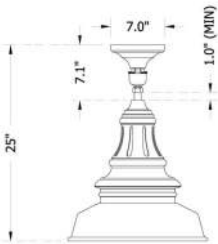
Fixture	1910LEDRLM18-FL	1910LEDRLM24-FL	1910LEDLBS-A	1910LEDLB-A
EPA (FT ²)	0.54	0.62	0.75	0.81
Weight (LBS)	27.61	30.49	28.59	29.88

Fixture	1910LEDLBL-A			
EPA (FT ²)	0.96			
Weight (LBS)	31.72			

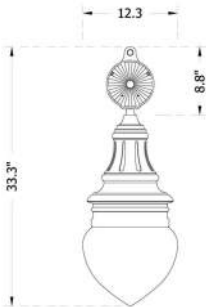
Dimensions



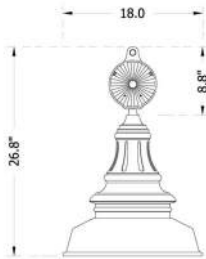
Stem Hung/Chain Hung
(SH44/CH44)
1910LED-A



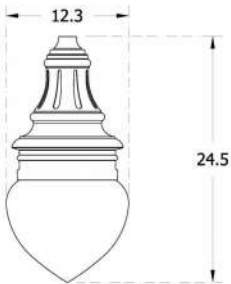
Stem Hung/Chain Hung
(SH44/CH44)
1910LED-RLM18-FL



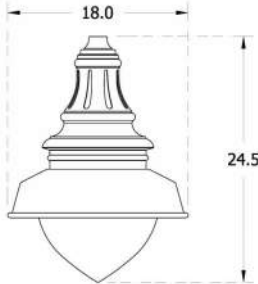
Catenary Mount (CAT)
1910LED-A



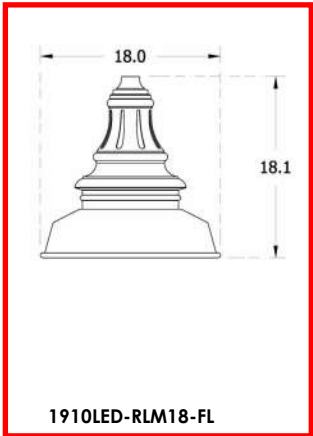
Catenary Mount (CAT)
1910LED-RLM18-FL



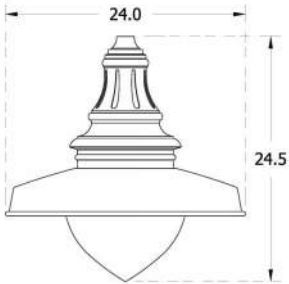
1910LED-A



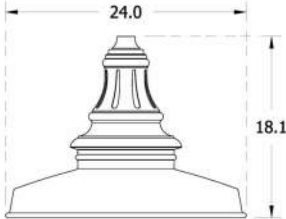
1910LED-RLM18-A



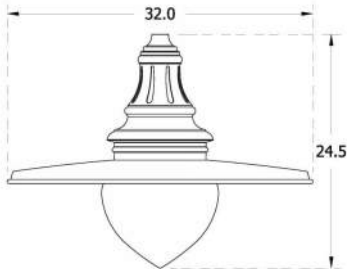
1910LED-RLM18-FL



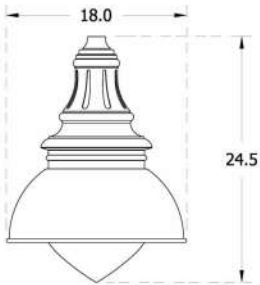
1910LED-RLM24-A



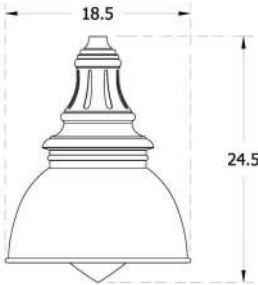
1910LED-RLM24-FL



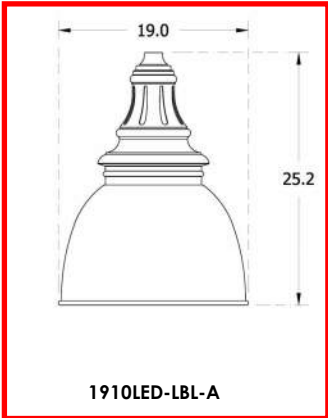
1910LED-RLM32-A



1910LED-LBS-A



1910LED-LB-A



1910LED-LBL-A

Hangstraight

Horizontal Hang-straight's slip fit 4" long by 2-3/8" OD on horizontal tenon



Standard Horizontal Hangstraight,
Spike Finial (**HSHS**)



Standard Horizontal Hangstraight,
Ball Finial (**HSHB**)



Standard Horizontal Hangstraight,
No Finial (**HSHN**)



"EZ" Vertical hangstraight (**EZ**)

Options



NEMA Twist-Lock Photocell (**PE** or
PE4)



Fixed Dimming Resistor Board (**FDRB**)



Button Photocell (**PEC**)



7-Pin NEMA Twist-Lock Receptacle
(**R7**)



Double Fuse Holder & (2) 3A Fuses
(**FHD**)



House Side Shield (**HSS**)

Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
1L40T_-MDL16	11060	B3U4G3	118.9	11115	B3U4G3	119.5	11095	B2U4G3	119.3	11615	B3U4G3	124.9	93
1L30T_-MDL16	10780	B3U4G3	115.9	10830	B3U4G3	116.5	10810	B2U4G3	116.2	11320	B3U4G3	121.7	93
1L27T_-MDL16	9790	B3U4G3	105.3	9840	B3U4G3	105.8	9825	B2U4G3	105.6	10285	B3U4G3	110.6	93
1L40T_-MDL12	8795	B2U4G2	127.5	8775	B2U4G3	127.2	8750	B2U4G3	126.8	9115	B3U4G2	132.1	69
1L30T_-MDL12	8570	B2U4G2	124.2	8550	B2U4G3	123.9	8525	B2U4G3	123.6	8885	B3U4G2	128.8	69
1L27T_-MDL12	7785	B2U4G2	112.8	7770	B2U4G3	112.6	7745	B2U4G3	112.2	8070	B3U4G2	117.0	69
1L40T_-MDL09	7140	B2U4G2	132.2	7115	B2U4G2	131.8	7110	B1U4G2	131.7	7390	B3U4G2	136.9	54
1L30T_-MDL09	6960	B2U4G2	128.9	6935	B2U4G2	128.4	6930	B1U4G2	128.3	7200	B3U4G2	133.3	54
1L27T_-MDL09	6320	B2U4G2	117.0	6300	B2U4G2	116.7	6295	B1U4G2	116.6	6545	B3U4G2	121.2	54
1L40T_-MDL06	4870	B1U3G2	135.3	4835	B2U3G2	134.3	4840	B1U3G2	134.4	5035	B2U3G2	139.9	36
1L30T_-MDL06	4745	B1U3G2	131.8	4710	B2U3G2	130.8	4715	B1U3G2	131.0	4905	B2U3G2	136.3	36
1L27T_-MDL06	4310	B1U3G2	119.7	4280	B2U3G2	118.9	4285	B1U3G2	119.0	4460	B2U3G2	123.9	36
1L40T_-MDL03	2390	B1U3G1	140.6	2395	B1U3G1	140.9	2390	B1U3G1	140.6	2485	B1U3G1	146.2	17
1L30T_-MDL03	2330	B1U3G1	137.1	2335	B1U3G1	137.4	2330	B1U3G1	137.1	2420	B1U3G1	142.4	17
1L27T_-MDL03	2115	B1U3G1	124.4	2120	B1U3G1	124.7	2115	B1U3G1	124.4	2200	B1U3G1	129.4	17

No Shade, Teardrop Lens (1910LED-A)

Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
1L40T_-MDL16	10575	B3U3G3	113.7	10685	B3U3G3	114.9	10585	B2U3G2	113.8	11060	B3U3G2	118.9	93
1L30T_-MDL16	10305	B3U3G3	110.8	10415	B3U3G3	112.0	10315	B2U3G2	110.9	10780	B3U3G2	115.9	93
1L27T_-MDL16	9365	B3U3G3	100.7	9460	B3U3G3	101.7	9370	B2U3G2	100.8	9790	B3U3G2	105.3	93
1L40T_-MDL12	8370	B2U3G2	121.3	8375	B2U3G2	121.4	8310	B2U3G2	120.4	8680	B3U3G2	125.8	69
1L30T_-MDL12	8155	B2U3G2	118.2	8160	B2U3G2	118.3	8100	B2U3G2	117.4	8460	B3U3G2	122.6	69
1L27T_-MDL12	7410	B2U3G2	107.4	7415	B2U3G2	107.5	7355	B2U3G2	106.6	7685	B3U3G2	111.4	69
1L40T_-MDL09	6815	B2U3G2	126.2	6830	B2U3G2	126.5	6765	B1U3G2	125.3	7075	B3U3G1	131.0	54
1L30T_-MDL09	6640	B2U3G2	123.0	6655	B2U3G2	123.2	6595	B1U3G2	122.1	6895	B3U3G1	127.7	54
1L27T_-MDL09	6035	B2U3G2	111.8	6045	B2U3G2	111.9	5990	B1U3G2	110.9	6265	B3U3G1	116.0	54
1L40T_-MDL06	4625	B1U2G1	128.5	4640	B2U2G2	128.9	4600	B1U2G1	127.8	4810	B2U3G1	133.6	36
1L30T_-MDL06	4505	B1U2G1	125.1	4520	B2U2G2	125.6	4485	B1U2G1	124.6	4685	B2U3G1	130.1	36
1L27T_-MDL06	4095	B1U2G1	113.8	4110	B2U2G2	114.2	4075	B1U2G1	113.2	4260	B2U3G1	118.3	36
1L40T_-MDL03	2280	B1U2G1	134.1	2285	B1U2G1	134.4	2255	B1U2G1	132.6	2385	B1U2G1	140.3	17
1L30T_-MDL03	2220	B1U2G1	130.6	2225	B1U2G1	130.9	2200	B1U2G1	129.4	2325	B1U2G1	136.8	17
1L27T_-MDL03	2020	B1U2G1	118.8	2025	B1U2G1	119.1	1995	B1U2G1	117.4	2110	B1U2G1	124.1	17

RLM Shade, Teardrop Lens (1910LED-RLM18-A)

Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
1L40T_-MDL16	10895	B2U0G2	117.2	10770	B3U0G3	115.8	10850	B2U0G2	116.7	11395	B3U0G2	122.5	93
1L30T_-MDL16	10615	B2U0G2	114.1	10495	B3U0G3	112.8	10575	B2U0G2	113.7	11105	B3U0G2	119.4	93
1L27T_-MDL16	9645	B2U0G2	103.7	9535	B3U0G3	102.5	9605	B2U0G2	103.3	10090	B3U0G2	108.5	93
1L40T_-MDL12	8590	B2U0G2	124.5	8480	B2U0G2	122.9	8625	B2U0G1	125.0	8945	B3U0G1	129.6	69
1L30T_-MDL12	8370	B2U0G2	121.3	8265	B2U0G2	119.8	8405	B2U0G1	121.8	8715	B3U0G1	126.3	69
1L27T_-MDL12	7605	B2U0G2	110.2	7510	B2U0G2	108.8	7635	B2U0G1	110.7	7920	B3U0G1	114.8	69
1L40T_-MDL09	6985	B2U0G2	129.4	6915	B2U0G2	128.1	7015	B2U0G1	129.9	7305	B3U0G1	135.3	54
1L30T_-MDL09	6805	B2U0G2	126.0	6740	B2U0G2	124.8	6835	B2U0G1	126.6	7120	B3U0G1	131.9	54
1L27T_-MDL09	6185	B2U0G2	114.5	6120	B2U0G2	113.3	6210	B2U0G1	115.0	6465	B3U0G1	119.7	54
1L40T_-MDL06	4755	B1U0G1	132.1	4700	B1U0G1	130.6	4780	B1U0G1	132.8	4975	B2U0G1	138.2	36
1L30T_-MDL06	4635	B1U0G1	128.8	4580	B1U0G1	127.2	4660	B1U0G1	129.4	4850	B2U0G1	134.7	36
1L27T_-MDL06	4210	B1U0G1	116.9	4160	B1U0G1	115.6	4230	B1U0G1	117.5	4405	B2U0G1	122.4	36
1L40T_-MDL03	2350	B1U0G1	138.2	2355	B1U0G1	138.5	2350	B1U0G1	138.2	2475	B1U0G1	145.6	17
1L30T_-MDL03	2290	B1U0G1	134.7	2295	B1U0G1	135.0	2290	B1U0G1	134.7	2410	B1U0G1	141.8	17
1L27T_-MDL03	2080	B1U0G1	122.4	2085	B1U0G1	122.6	2080	B1U0G1	122.4	2190	B1U0G1	128.8	17

RLM Shade, Flat Lens (1910LED-RLM18-FL)

Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
1L40T_-MDL16	9610	B2U2G2	103.3	9450	B2U2G2	101.6	9815	B2U2G2	105.5	9600	B3U2G1	103.2	93
1L30T_-MDL16	9365	B2U2G2	100.7	9210	B2U2G2	99.0	9565	B2U2G2	102.8	9355	B3U2G1	100.6	93
1L27T_-MDL16	8510	B2U2G2	91.5	8365	B2U2G2	89.9	8690	B2U2G2	93.4	8500	B3U2G1	91.4	93
1L40T_-MDL12	7555	B2U2G1	109.5	7475	B2U2G1	108.3	7700	B2U2G1	111.6	7590	B2U2G1	110.0	69
1L30T_-MDL12	7365	B2U2G1	106.7	7285	B2U2G1	105.6	7505	B2U2G1	108.8	7395	B2U2G1	107.2	69
1L27T_-MDL12	6690	B2U2G1	97.0	6620	B2U2G1	95.9	6815	B2U2G1	98.8	6720	B2U2G1	97.4	69
1L40T_-MDL09	6145	B2U2G1	113.8	6085	B2U2G1	112.7	6260	B2U2G1	115.9	6165	B2U2G1	114.2	54
1L30T_-MDL09	5990	B2U2G1	110.9	5930	B2U2G1	109.8	6100	B2U2G1	113.0	6010	B2U2G1	111.3	54
1L27T_-MDL09	5440	B2U2G1	100.7	5385	B2U2G1	99.7	5540	B2U2G1	102.6	5460	B2U2G1	101.1	54
1L40T_-MDL06	4180	B1U2G1	116.1	4130	B1U2G1	114.7	4240	B1U1G1	117.8	4150	B2U1G1	115.3	36
1L30T_-MDL06	4075	B1U2G1	113.2	4025	B1U2G1	111.8	4130	B1U1G1	114.7	4045	B2U1G1	112.4	36
1L27T_-MDL06	3700	B1U2G1	102.8	3655	B1U2G1	101.5	3755	B1U1G1	104.3	3675	B2U1G1	102.1	36
1L40T_-MDL03	2055	B1U1G1	120.9	2025	B1U1G1	119.1	2075	B1U1G1	122.1	2060	B1U1G1	121.2	17
1L30T_-MDL03	2005	B1U1G1	117.9	1975	B1U1G1	116.2	2020	B1U1G1	118.8	2010	B1U1G1	118.2	17
1L27T_-MDL03	1820	B1U1G1	107.1	1795	B1U1G1	105.6	1835	B1U1G1	107.9	1825	B1U1G1	107.4	17

Short Shade, Teardrop Lens (1910LED-LBS-A)

Model #	LB SHADE T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	LBL SHADE T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
1L40T_-MDL16	8955	B3U1G1	96.3	8010	B3U0G1	86.1	93
1L30T_-MDL16	8725	B3U1G1	93.8	7805	B3U0G1	83.9	93
1L27T_-MDL16	7930	B3U1G1	85.3	7090	B3U0G1	76.2	93
1L40T_-MDL12	7065	B2U1G1	100.9	6325	B2U0G1	90.4	70
1L30T_-MDL12	6885	B2U1G1	98.4	6165	B2U0G1	88.1	70
1L27T_-MDL12	6255	B2U1G1	89.4	5600	B2U0G1	80.0	70
1L40T_-MDL09	5710	B2U1G1	105.7	5165	B2U0G1	95.6	54
1L30T_-MDL09	5565	B2U1G1	103.1	5035	B2U0G1	93.2	54
1L27T_-MDL09	5055	B2U1G1	93.6	4575	B2U0G1	84.7	54
1L40T_-MDL06	3880	B2U1G1	107.8	3510	B2U0G1	97.5	36
1L30T_-MDL06	3780	B2U1G1	105.0	3420	B2U0G1	95.0	36
1L27T_-MDL06	3435	B2U1G1	95.4	3110	B2U0G1	86.4	36
1L40T_-MDL03	1910	B1U1G0	112.4	1725	B1U0G0	101.5	17
1L30T_-MDL03	1860	B1U1G0	109.4	1680	B1U0G0	98.8	17
1L27T_-MDL03	1690	B1U1G0	99.4	1525	B1U0G0	89.7	17

Medium and Large Shade, Teardrop Lens
(1910LED-LB-A) & (1910LED-LBL-A)

How to Order

Mounting Configuration	Overall Drop Length (In Inches) ⁽²⁾ ⁽³⁾	Fixture	Shade ⁽⁴⁾	LED	CCT - Color Temp (K)	Distribution Type	Driver	Lens
1W Wall Mount 1A 1 Arm Mount 2A 2 Arm Mount @ 180° 2A90 2 Arm Mount @ 90° 3A 3 Arms @ 120° 3A90 3 Arms @ 90° 4A 4 Arms @ 90° 1AM 1 Arm Mid-Mount 2AM 2 Arm Mid-Mount @ 180° SH44 Stem Hung CH44 Chain Hung CAT Catenary ⁽¹⁾		1910LED Acorn, Medium	LBS Short Shade, Reno LB Medium Shade, Lake Bluff ⁽⁵⁾ LBL Large Shade, Lake Bluff ⁽⁵⁾ RLM18 18" RLM Shade, Park Ridge RLM24 24" RLM Shade, Park Ridge RLM32 32" RLM Shade, Park Ridge	1L 1 LED	27 2,700K 30 3,000K 35 3,500K 40 4,000K 50 5,000K	T2 Type 2 T3 Type 3 T4 Type 4 T5 Type 5	MDL03 120V-277V, 300mA MDH03 347V-480V, 300mA MDL06 120V-277V, 600mA MDH06 347V-480V, 600mA MDL09 120V-277V, 900mA MDH09 347V-480V, 900mA MDL12 120V-277V, 1200mA MDH12 347V-480V, 1200mA MDL16 120V-277V, 1600mA MDH16 347V-480V, 1600mA	A Acrylic Clear Teardrop P Poly Clear Teardrop FL Flat Lens ⁽⁶⁾

- Notes:
1. Requires EZ hang-straight.

2. Required field for Stem or Chain Mounting Configuration.

3. Minimum 32" Overall Drop Length ("A" Lens). Minimum 25" Overall Drop Length ("FL" Lens).

4. Shade is optional

5. For use with T5 optic only

6. Available with RLM18 and RLM24 only.

How to Order

Optional Control Receptacle ⁽⁷⁾ ⁽⁸⁾ ⁽⁹⁾	Optional Control	Optional Fuse ⁽¹²⁾	Optional Hangstraight	Optional House Side Shield ⁽¹³⁾	Optional Fixed Dimming Resistor Board ⁽¹¹⁾	Finish
R7 7-Pin control receptacle only	PE Twist-Lock Photocontrol (120V-277V) ⁽¹⁰⁾ PE4 Twist-Lock Photocontrol (347V-480V) ⁽¹⁰⁾ SC Shorting Cap ⁽¹⁰⁾ PEC Electronic Button Photocontrol (120V-277V) ⁽¹¹⁾ PEC4 Electronic Button Photocontrol (480V) ⁽¹¹⁾	FHD Double Fuse and Holder	HSHS Standard Horizontal Hangstraight, Spike Finial HSHN Standard Horizontal Hangstraight, No Finial HSHB Standard Horizontal Hangstraight, Ball Finial EZ Vertical Hangstraight, Large, "EZ" Mount ⁽¹¹⁾	HSS 120° House Side Shield	FDRB Fixed Dimming Resistor Board	BKT Black Textured ⁽¹⁴⁾ WHT White Textured ⁽¹⁴⁾ PGT Park Green Textured ⁽¹⁴⁾ ABZT Architectural Medium Bronze Textured ⁽¹⁴⁾ DBT Dark Bronze Textured ⁽¹⁴⁾ CM Custom Match ⁽¹⁵⁾ OI Old Iron ⁽¹⁵⁾ RT Rust ⁽¹⁵⁾ WBR Weathered Brown ⁽¹⁵⁾ CD Cedar ⁽¹⁵⁾ WBK Weathered Black ⁽¹⁵⁾ TT Two Tone ⁽¹⁵⁾ VG Verde Green SI Swedish Iron OWGT Old World Gray Textured

Notes:

7. Not for use with FDRB.

8. Only available with HORIZONTAL hangstraight.

9. Not for use with STEM, CHAIN, CAT, or EZ mounting style.

10. Requires control receptacle.

11. Not for use with R7.

12. Ships loose for installation in base.

13. Not for use with T5 optic.

14. Smooth finishes are available upon request.

15. Custom colors require upcharge.



K729 AURORA JR. - LED

A 3/4 scaled version of the K829, the K729 Aurora Jr. provides a gently curved fixture designed to be used on its own in a street or area lighting system, or in combination with its matching K800 luminaire. This allows both roadway and pedestrian concerns to be individually met without any compromise.



King Luminaire

PRODUCT SPECIFICATIONS

LED ENGINE

Light engine shall include an array of 30 solid state Cree X-Series high power LEDs (light emitting diodes). The emitters shall be mounted to a metal core circuit board using SMT technology. The LEDs and circuit boards shall then be mounted to a high performance heat sink which is vented to the outside ambient air to provide dynamic airflow for cooling the system.

OPTICS

External light control shall consist of high precision refractive lenses mounted above the LED emitter arrays in such a way to achieve optimum uplight control. The lenses shall also control horizontal light distribution so that Type II, III, IV or V IESNA distribution patterns are achieved.

LENS

The K729 Aurora Jr. pendant is available with or without a lens. Lens options include; sag glass lens; shallow glass lens; rippled acrylic shallow lens; or rippled acrylic deep dish lens. The glass lens shall be made of #9000 clear borosilicate glass (fully annealed). It shall maintain a minimum thickness of 0.16". The acrylic lens shall be moulded of rippled acrylic Acrylite Plus Acrylic Polymer, or equivalent, having a minimum thickness of 0.15". The lens is secured by means of a cast A319 aluminum holding ring that is sealed to provide an IP66 Ingress rating. Additionally, a continuous circular gasket rated for 270°F must hold the lens into place within the cast ring assembly and assist in sealing the fixture.

LUMINAIRE CONSTRUCTION

The luminaire shall consist of a heavy cast aluminum housing that acts as the enclosure for the engine and is of adequate thickness to give structural rigidity. The engine must be affixed to the inside of the housing with stainless steel screws.

PLUMBIZER

The K729 Aurora Jr. comes with multiple mounting options including the KPL10, KPL11, KPL20,

KPL21, KPL30, KPL31 and KPL40. Please contact King Luminaire for more details and specifications.

DRIVER

The LED universal dimmable driver will be class 2 and capable of 120 - 277V or 347 - 480V input voltage, greater than 0.9 power factor, less than 20% total harmonic distortion. The case temperature of the driver can range from -40°C up to 70°C. Each LED system comes with a standard surge protection designed to withstand up to 20kV/10kA of transient line surge as per IEEE C62.41.2 C High. An in-line ferrite choke is utilized to provide protection against EFT's. The driver assembly will be mounted on a fabricated aluminum bracket to allow complete tool-less maintenance. Dimming capable using 1-10vdc (10% to 100%), 10v PWM, or resistance.

PHOTOMETRICS

Fixtures are tested to IESNA LM79 specifications. These reports are available upon request.

CHROMATICITY

High output LEDs come standard at 3000K & 4000K (+/- 300K) with a minimum nominal 70 CRI. Additional CCT emitters are available upon request.

LUMEN MAINTENANCE

Reported (TM21) and Calculated (L70) reports are available upon request with a minimum calculated value of 100,000 hrs.

WIRING

All internal wiring and connections shall be completed so that it will be necessary only to attach the incoming supply connectors to Mate-N-Lok connectors or to a terminal block. Mate-N-Lok shall be certified for 600V operation. Internal wire connectors shall be crimp connector only and rated at 1000V and 150°C. All wiring to be CSA certified and/or UL listed, type SFF-2, SEWF-2, or SEW-2 No. 14 gauge, 150°C, 600V, and color coded for the required voltage.

THERMALS

Fixtures tested to DOE sanc-

tioned standards to determine the maximum in-situ solder-point or junction-point temperatures of the LED emitters. This report is available upon request.

FINISH

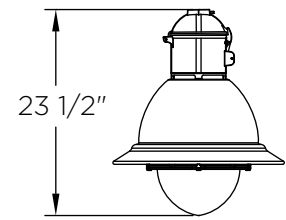
Housing is finished with a 13 step KingCoat™ SuperDurable polyester TGIC powder coat. Standard colors include strobe white, brown metal, marina blue, gate gray, Chicago bronze, standard gold, standard black, federal green and rain forest. Please see our website for a complete list of colors. RAL and custom color matches are available.

MISCELLANEOUS

All exterior hardware and fasteners, wholly or partly exposed, shall be stainless steel alloy. All internal fasteners are stainless steel or zinc coated steel. All remaining internal hardware is stainless steel, aluminum alloy, or zinc coated steel.

WARRANTY

The K729 Aurora Jr. LED luminaire comes with a 7 year limited warranty.



CERTIFICATION:

CSA US Listed
Suitable for wet locations
ISO 9001
IP66
ARRA Compliant
LM79 / LM80 Compliant

DRIVER INFO:

>0.9 Power Factor
<20% Total Harmonic Distortion
120 - 277V & 347 - 480V
-40°C Min. Case Temperature
70°C Max. Case Temperature
Surge Protection: ANSI C136.2
extreme level 20kV/10kA
Dimming Capable: 1-10vdc

EPA:

Flat:	0.63 sq. ft.
Sag Lens:	0.66 sq. ft.
Shallow Lens:	0.74 sq. ft.
Deep Dish Lens:	0.84 sq. ft.

FIXTURE WEIGHT:

Flat:	19 lbs
Sag Lens:	22 lbs
Shallow Lens:	23 lbs
Deep Dish Lens:	23 lbs

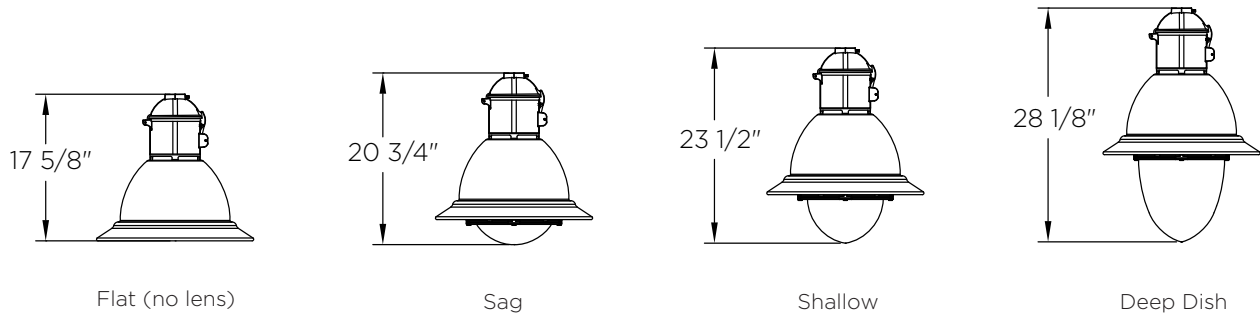


Not all product variations listed on this page are DLC qualified.
Visit www.designlights.org/search to confirm qualification.
08-11-2021

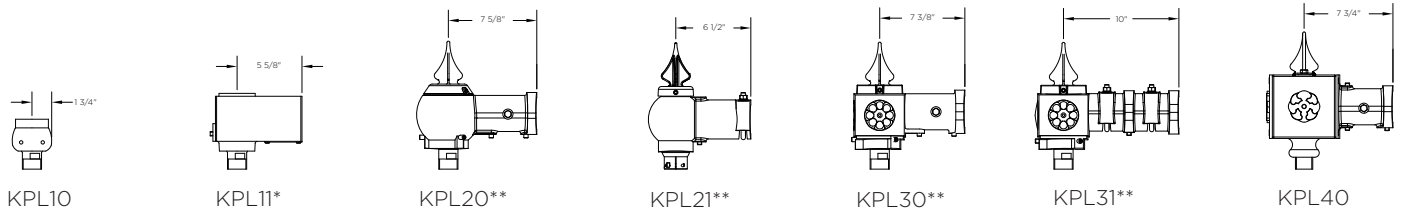
FIXTURE OPTIONS

K729 AURORA JR. - LED

Lens Options



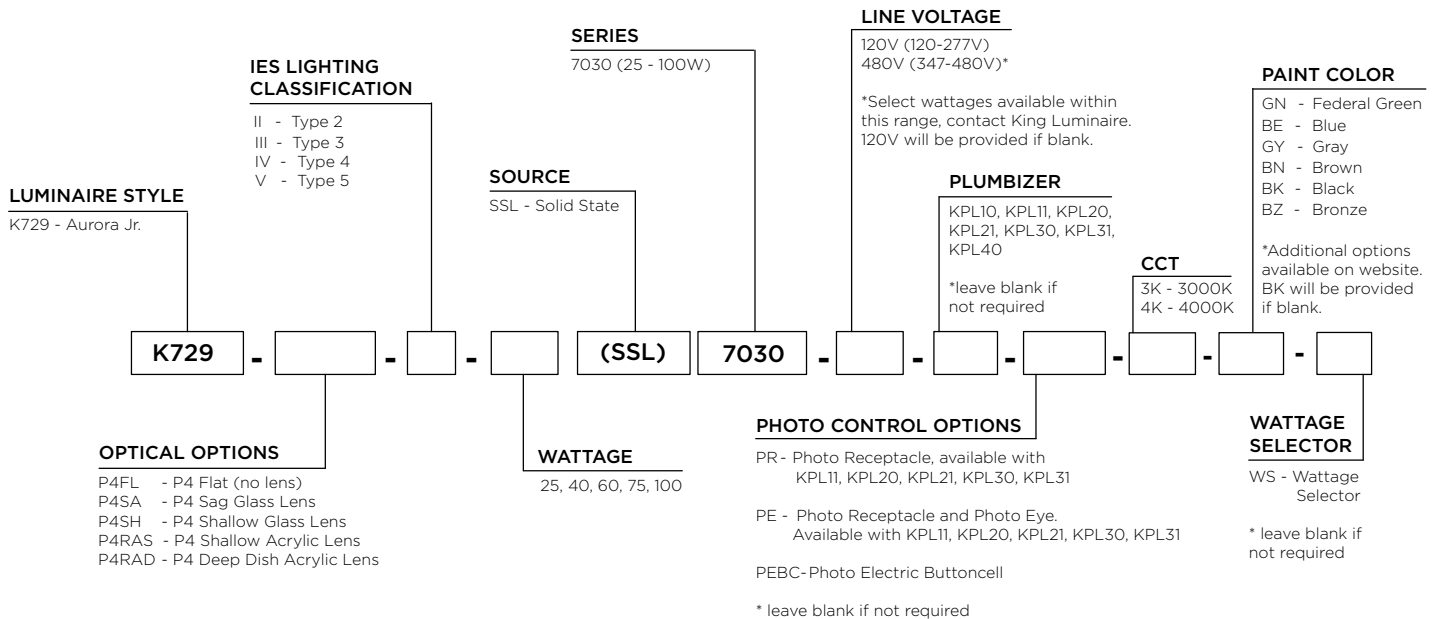
Plumbizer/Mounting Options



*Available with PR7

**Available with PR7 or finial

HOW TO ORDER



HADCO

by @signify

Urban

Westbrooke

CXF14/CXF15 Pendant



Hadco Westbrooke pendant luminaires offer a simple and modern look but still traditional, providing style and performance to work in several urban applications including residential streets, city streets, campuses, parking lots and retail centers. These pendants are now available with comfort optics, providing a low glare solution for pedestrian applications.

Project: _____

Location: _____

Cat.No: _____

Type: _____

Lamps: _____ Qty: _____

Notes: _____

Ordering guide

Example: CXF14-32-G3-A-2-730-A-3-N-SP1-N

Model	LEDs	Generation	Mount	Finish	Distribution	Color Temp.	Voltage	Drive current
		G3	T					
CXF14 Westbrooke	32' 32 LEDs	G3 Gen 3	T Top	A Black	2 Type 2	730 Warm 3000K 740 Neutral 4000K	A 120-277 VAC B^{1,2} 347-480 VAC	3 350mA
CXF15 Westbrooke	48 48 LEDs			B White	2H Type 2 w/HSS			5 530mA
	64 64 LEDs			G Verde Green	3 Type 3			7 700mA
	80 80 LEDs			H Bronze	3H Type 3 w/HSS			
Receptacle 7 pin is available for this luminaire but must be selected with the arm bracket. It is not part of the luminaire code. See bracket ordering guide for coding.				I Silver Gray	3W Type 3 Wide			
				J Dark Green	3WH Type 3 Wide w/HSS			
					4 Type 4			
					5 Type 5			

Ordering guide (continued)

Driver Options	Surge Suppression	Spinning
DA 4 Hrs 25% Reduction DB 4 Hrs 50% Reduction DC 4 Hrs 75% Reduction DD 6 Hrs 25% Reduction DE 6 Hrs 50% Reduction DF 6 Hrs 75% Reduction DG 8 Hrs 25% Reduction DH 8 Hrs 50% Reduction DJ 8 Hrs 75% Reduction DALI Compatible with DALI S FAWS Filed adjustable wattage selector SRD² Sensor ready driver, standard configuration SRD1² Sensor ready driver, alternate configuration N No dimming	SP1 Parallel 10kV standard SP2 Parallel 20kV	F Fluted spinning N No options

Footnotes

- 32 LED at 350mA and 530mA are not compatible with 347-480V.
- 347-480V not compatible with optional dimming or optional programming.

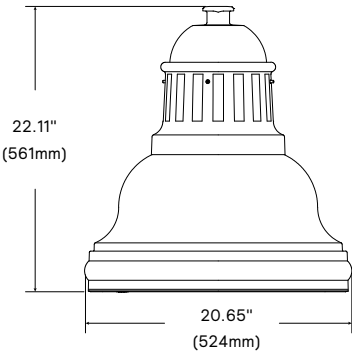
CXF14/CXF15 Westbrooke

Pendant

Dimensions

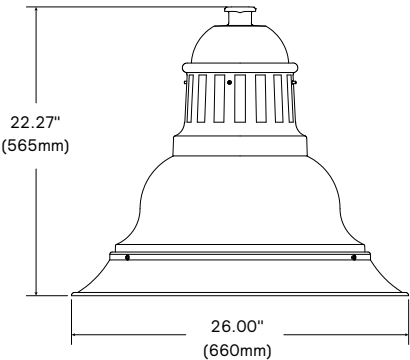
CXF14

Width	21" diameter
Height	22-5/16"
EPA	1.6 sq. ft
Weight (maximum)	38 lbs (17.24 kg)



CXF15

Width	26" diameter
Height	22-5/16"
EPA	1.6 sq. ft
Weight (maximum)	38 lbs (17.24 kg)



Note: Figures are shown with optional fluted spinning

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 L ₇₀ Hours	L ₇₀ per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	2100 mA	>100,000 hours	>60,000 hours	>87%

Field Adjustable Wattage (FAWS) Multiplier Chart

FAWS Position	Typical Delivered Lumens Multiplier	Typical System Wattage
1	0.31	0.28
2	0.53	0.50
3	0.62	0.58
4	0.70	0.67
5	0.78	0.75
6	0.83	0.81
7	0.89	0.87
8	0.92	0.91
9	0.96	0.95
10	1.00	1.00

Note: Typical value accuracy +/- 5%

CXF14/CXF15 Westbrook

Pendant

LED Wattage and Lumen Values: Westbrook CXF14/CXF15

Flat Glass Lens 3000K 32 LEDs					Type 2			Type 3			Type 3W		
Ordering Code	LED qty	LED Current (mA)	Average System Watts	Color Temp.	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)
CXF32-G3-x-730-3	32	350	3000	35	4715	B1-U0-G1	134	4601	B1-U0-G1	131	4521	B1-U0-G1	128
CXF32-G3-x-730-5	32	530	3000	51	6750	B2-U0-G1	132	6587	B1-U0-G1	129	6473	B1-U0-G2	126
CXF32-G3-x-730-7	32	700	3000	71	8405	B2-U0-G1	119	8203	B2-U0-G2	116	8061	B2-U0-G2	114
Flat Glass Lens 3000K 32 LEDs (continued)					Type 4			Type 5					
CXF32-G3-x-730-3	32	350	3000	35	4650	B1-U0-G1	132	4516	B3-U0-G1	128			
CXF32-G3-x-730-5	32	530	3000	51	6657	B1-U0-G2	130	6465	B3-U0-G1	126			
CXF32-G3-x-730-7	32	700	3000	71	8290	B2-U0-G2	118	8051	B3-U0-G2	114			

Flat Glass Lens 3000K 48 LEDs					Type 2			Type 3			Type 3W		
Ordering Code	LED qty	LED Current (mA)	Average System Watts	Color Temp.	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)
CXF48-G3-x-730-3	48	350	3000	54	6870	B2-U0-G1	127	6705	B1-U0-G1	124	6589	B1-U0-G2	122
CXF48-G3-x-730-5	48	530	3000	80	9836	B2-U0-G2	123	9599	B2-U0-G2	120	9433	B2-U0-G2	118
CXF48-G3-x-730-7	48	700	3000	105	12249	B3-U0-G2	117	11954	B2-U0-G2	114	11747	B2-U0-G2	112
Flat Glass Lens 3000K 48 LEDs (continued)					Type 4			Type 5					
CXF48-G3-x-730-3	48	350	3000	54	6776	B1-U0-G2	125	6580	B3-U0-G1	122			
CXF48-G3-x-730-5	48	530	3000	80	9701	B2-U0-G2	121	9421	B3-U0-G2	118			
CXF48-G3-x-730-7	48	700	3000	105	12081	B2-U0-G2	115	11732	B4-U0-G2	112			

Flat Glass Lens 3000K 64 LEDs					Type 2			Type 3			Type 3W		
Ordering Code	LED qty	LED Current (mA)	Average System Watts	Color Temp.	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)
CXF64-G3-x-730-3	64	350	3000	68	7602	B2-U0-G1	112	7418	B2-U0-G1	109	7290	B1-U0-G2	107
CXF64-G3-x-730-5	64	530	3000	99	10882	B2-U0-G2	110	10620	B2-U0-G2	107	10437	B2-U0-G2	105
CXF64-G3-x-730-7	64	700	3000	114	13552	B3-U0-G2	119	13226	B2-U0-G2	116	12997	B2-U0-G2	114
Flat Glass Lens 3000K 64 LEDs (continued)					Type 4			Type 5					
CXF64-G3-x-730-3	64	350	3000	68	7497	B2-U0-G2	110	7281	B3-U0-G2	107			
CXF64-G3-x-730-5	64	530	3000	99	10733	B2-U0-G2	108	10423	B4-U0-G2	105			
CXF64-G3-x-730-7	64	700	3000	114	13367	B2-U0-G2	117	12980	B4-U0-G2	114			

Flat Glass Lens 3000K 80 LEDs					Type 2			Type 3			Type 3W		
Ordering Code	LED qty	LED Current (mA)	Average System Watts	Color Temp.	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)
CXF80-G3-x-730-3	80	350	3000	87	10695	B2-U0-G2	123	10438	B2-U0-G2	120	10257	B2-U0-G2	118
CXF80-G3-x-730-5	80	530	3000	126	15312	B3-U0-G2	121	14943	B3-U0-G2	118	14684	B2-U0-G2	116
CXF80-G3-x-730-7	80	700	3000	168	19068	B3-U0-G2	113	18609	B3-U0-G2	111	18287	B3-U0-G3	109
Flat Glass Lens 3000K 80 LEDs (continued)					Type 4			Type 5					
CXF80-G3-x-730-3	80	350	3000	87	10549	B2-U0-G2	121	10244	B4-U0-G2	118			
CXF80-G3-x-730-5	80	530	3000	126	15102	B3-U0-G2	120	14665	B4-U0-G2	116			
CXF80-G3-x-730-7	80	700	3000	168	18807	B3-U0-G3	112	18263	B4-U0-G2	109			

Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout.
 Note: Some data may be scaled based on tests of similar but not identical luminaires.

CXF14/CXF15 Westbrook

Pendant

LED Wattage and Lumen Values: Westbrook CXF14/CXF15

Flat Glass Lens 4000K 32 LEDs					Type 2			Type 3			Type 3W		
Ordering Code	LED qty	LED Current (mA)	Average System Watts	Color Temp.	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)
CXF32-G3-x-740-3	32	350	4000	35	4950	B1-U0-G1	141	4831	B1-U0-G1	131	4747	B1-U0-G1	135
CXF32-G3-x-740-5	32	530	4000	51	7087	B2-U0-G1	138	6916	B1-U0-G1	129	6797	B1-U0-G2	133
CXF32-G3-x-740-7	32	700	4000	71	8826	B2-U0-G1	125	8613	B2-U0-G2	116	8464	B2-U0-G2	120
Flat Glass Lens 4000K 32 LEDs (continued)					Type 4			Type 5					
CXF32-G3-x-740-3	32	350	4000	35	4882	B1-U0-G1	139	4741	B3-U0-G1	135			
CXF32-G3-x-740-5	32	530	4000	51	6990	B1-U0-G2	137	6788	B3-U0-G1	133			
CXF32-G3-x-740-7	32	700	4000	71	8705	B2-U0-G2	123	8453	B3-U0-G2	120			

Flat Glass Lens 4000K 48 LEDs					Type 2			Type 3			Type 3W		
Ordering Code	LED qty	LED Current (mA)	Average System Watts	Color Temp.	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)
CXF48-G3-x-740-3	48	350	4000	54	7214	B2-U0-G1	134	7040	B2-U0-G1	130	6918	B1-U0-G2	128
CXF48-G3-x-740-5	48	530	4000	80	10328	B2-U0-G2	129	10079	B2-U0-G2	126	9904	B2-U0-G2	124
CXF48-G3-x-740-7	48	700	4000	105	12861	B3-U0-G2	122	12552	B2-U0-G2	120	12334	B2-U0-G2	117
Flat Glass Lens 4000K 48 LEDs (continued)					Type 4			Type 5					
CXF48-G3-x-740-3	48	350	4000	54	7115	B1-U0-G2	132	6910	B3-U0-G1	128			
CXF48-G3-x-740-5	48	530	4000	80	10186	B2-U0-G2	127	9892	B4-U0-G2	124			
CXF48-G3-x-740-7	48	700	4000	105	12685	B2-U0-G2	121	12319	B4-U0-G2	117			

Flat Glass Lens 4000K 64 LEDs					Type 2			Type 3			Type 3W		
Ordering Code	LED qty	LED Current (mA)	Average System Watts	Color Temp.	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)
CXF64-G3-x-740-3	64	350	4000	68	7982	B2-U0-G1	117	7789	B2-U0-G2	114	7655	B1-U0-G2	112
CXF64-G3-x-740-5	64	530	4000	99	11427	B3-U0-G2	115	11151	B2-U0-G2	112	10958	B2-U0-G2	111
CXF64-G3-x-740-7	64	700	4000	114	14230	B3-U0-G2	125	13887	B3-U0-G2	122	13647	B2-U0-G2	120
Flat Glass Lens 4000K 64 LEDs (continued)					Type 4			Type 5					
CXF64-G3-x-740-3	64	350	4000	68	7872	B2-U0-G2	116	7645	B3-U0-G2	112			
CXF64-G3-x-740-5	64	530	4000	99	11270	B2-U0-G2	114	10944	B4-U0-G2	110			
CXF64-G3-x-740-7	64	700	4000	114	14035	B2-U0-G2	123	13629	B4-U0-G2	120			

Flat Glass Lens 4000K 80 LEDs					Type 2			Type 3			Type 3W		
Ordering Code	LED qty	LED Current (mA)	Average System Watts	Color Temp.	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)	Lumens output (LM)	BUG Rating	Efficacy (LM/W)
CXF80-G3-x-740-3	80	350	4000	87	11230	B3-U0-G2	129	10960	B2-U0-G2	126	10770	B2-U0-G2	124
CXF80-G3-x-740-5	80	530	4000	126	16077	B3-U0-G2	127	15690	B3-U0-G2	124	15418	B2-U0-G2	122
CXF80-G3-x-740-7	80	700	4000	168	20022	B3-U0-G2	119	19539	B3-U0-G2	116	19201	B3-U0-G3	114
Flat Glass Lens 4000K 80 LEDs (continued)					Type 4			Type 5					
CXF80-G3-x-740-3	80	350	4000	87	11076	B2-U0-G2	127	10756	B4-U0-G2	123			
CXF80-G3-x-740-5	80	530	4000	126	15857	B3-U0-G2	126	15399	B4-U0-G2	122			
CXF80-G3-x-740-7	80	700	4000	168	19747	B3-U0-G3	117	19177	B4-U0-G2	114			

Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout.
 Note: Some data may be scaled based on tests of similar but not identical luminaires.

CXF14/CXF15 Westbrook

Pendant

Specifications

Housing

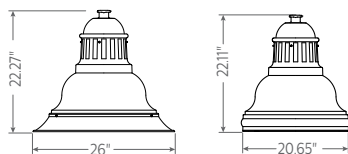
In a round shape, this housing is constructed of low copper die-cast aluminum and 0.090" thick spun aluminum. All non-ferrous fasteners prevent corrosion and ensure longer life.

Access-mechanism

The hinged lens frame is cast aluminum with a stainless steel spring latch for tool-less access

Mounting

T: Top arm mount



Light engine

LED engine is composed of five main components: Heat Sink, Lens, LED lamp, Optical System, and Driver. Electrical components are RoHS compliant.

LED module

LED type LUXEON T. Composed of high-performance white LEDs. Color temperature as per ANSI/NEMA bin Neutral White, 4000 Kelvin nominal (3985K +/- 275K or 3710K to 4260K) or Warm White, 3000 Kelvin nominal (3045K +/- 175K or 2870K to 3220K), CRI 70 Min. 75 Typical.

Heat sink

Made of cast aluminum optimizing the LEDs efficiency and life. Product does not use any cooling device with moving parts (only passive cooling device).

Finish

Color in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils / 24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard. The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

Optical system

Composed of high performance UV stabilized optical grade polymer refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. System is rated IP66. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. Type 2, 3, 3W, 4 and Type 5 Street side indicated. House side shield optional (can be field installed) 2H: Type 2 with House Side Shield, 3H: Type 3 short with house side shield, 3WH: Type 3 Wide with House side shield.

Driver

Driver comes standard with dimming compatible 0-10V. High power factor of 95%. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. Maximum ambient operating temperature from 40°F (4°C) to 130°F (55°C). Certified in compliance to UL1310 cULus requirement (dry and damp location). Assembled on a unitized removable tray with Tyco quick disconnect plug resisting to 221°F (105°C). 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).

DA: 4 Hrs 25% Reduction

DB: 4 Hrs 50% Reduction

DC: 4 Hrs 75% Reduction

DD: 6 Hrs 25% Reduction

DE: 6 Hrs 50% Reduction

DF: 6 Hrs 75% Reduction

DG: 8 Hrs 25% Reduction

DH: 8 Hrs 50% Reduction

DJ: 8 Hrs 75% Reduction

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

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.

SRD: Sensor Ready Driver including SR communication (used for dimming and other functionalities), 24V auxiliary supply and a logical signal input (LSI) connected to the top NEMA twist lock receptacle.

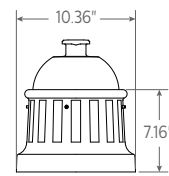
SRD1: Sensor Ready Driver including SR communication (used for dimming and other functionalities) but with 24V auxiliary supply and a logical signal input (LSI) not connected to the top NEMA twist lock.

Surge protection

Surge protector 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 U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

Luminaire options

F: Fluted spinning



N: None

Wiring

Gauge 18 wires. Top mount option come with quick disconnects. Arm mount options provide a 6" Minimum exceeding from luminaire.

CXF14/CXF15 Westbrook

Pendant

Specifications (cont.)

Hardware

All non-ferrous fasteners prevent corrosion and ensure longer life.

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, using LM-80 data from LED manufacturers and engineering prediction methods, the luminaire useful life is expected to reach 100,000+ hours with >L70 lumen maintenance @ 25°C. (48 LED and 64 LED@700mA is 82,000) Luminaire useful life accounts for LED lumen maintenance and additional factors, including LED life, driver life, PCB substrate, solder joints on/off cycles and burning hours for nominal applications.

LED products manufacturing standard

The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340 5 1 and ANSI/ ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

Quality control

The manufacturer must provide a written confirmation of its ISO 9001 2008 and ISO 14001 2004 International Quality Standards Certification.

Certifications and Compliance

cETL listed to Canadian safety standards for wet locations. Manufactured to ISO 9001:2008 Standards. UL8750 and UL1598 compliant. ETL listed to U.S. safety standards for wet locations. cETL listed to Canadian safety standards for wet locations. LM80 & LM79 tested. IP Rating: The LED optics chamber is IP66 rated. The LED driver is IP66 rated. Westbrook LED luminaires are DesignLights Consortium qualified.

Warranty

5 year extended warranty.

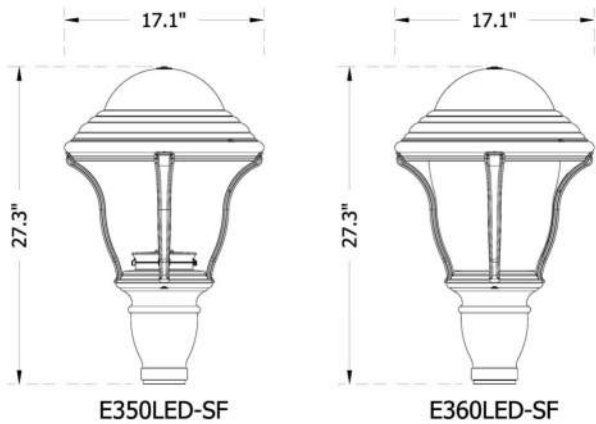


Project Name

Qty

Type

Catalog / Part Number



Distribution Type

Type 2

Type 3

Type 4

Type 5

CCT - Color Temp (K)

2,700K

3,000K

3,500K

4,000K

5,000K

7 Year Warranty

7

IP Rating

IP 65

Certifications

UL

LISTED

US

DARKSKY
APPROVED

Reduces light pollution

Certified by DarkSky.org

Description

The E350LED and E360LED Euro is a medium scale fixture that includes a permanent mold cast aluminum roof, fitter and (4) sweeping support legs. This unique family adapts classic design elements in a more contemporary package.

E350LED - EPA: .9 (ft²) | WEIGHT: 42 LBS

E360LED - EPA: 1.0 (ft²) | WEIGHT: 42 LBS

Features

Mounting Configuration

1W: Wall Mount

1A: 1 Arm Mount

2A: 2 Arm Mount @ 180°

2APT: 2 Arm @ 180° & Post Top

3APT: 3 Arm @ 120° & Post Top

1AM: 1 Arm Mid-Mount

450PB: Pier Base

PT: Post Top

1APT: 1 Arm & Post Top

2A90: 2 Arm Mount @ 90°

3A: 3 Arms @ 120°

3A90: 3 Arms @ 90°

4A: 4 Arms @ 90°

4APT: 4 Arm @ 90° & Post Top

2AM: 2 Arm Mid-Mount @180°

Optional Control Receptacle

R7: 7-Pin control receptacle only

Optional Control

PE: Twist-Lock Photocontrol (120V-277V)

PE4: Twist-Lock Photocontrol (347V-480V)

SC: Shorting Cap

PEC: Electronic Button Photocontrol (120V-277V)

PEC4: Electronic Button Photocontrol (480V)

Optional Fuse

FHD: Double Fuse and Holder

Optional House Side Shield

BLOC: Back Light Optical Control

Optional Fixed Dimming Resistor Board

FDRB: Fixed Dimming Resistor Board

Physical

Fixture

E350LED: Open Body, Medium Euro

E360LED: Full Body Lens, Medium Euro

Fitter	SF: Standard Fitter
	UF: Utility Fitter
Lens	CA: Clear Acrylic
	FA: Frosted Acrylic
	FL: Flat Lens
	SG: Sag Glass
	FSG: Frosted Sag Glass
	SV1: Flat Soft Vue Light Diffused Acrylic
Finish	SV2: Flat Soft Vue Moderate Diffused Acrylic
	BKT: Black Textured
	WHT: White Textured
	PGT: Park Green Textured
	ABZT: Architectural Medium Bronze Textured
	DBT: Dark Bronze Textured
	CM: Custom Match
	OI: Old Iron
	RT: Rust
	WBR: Weathered Brown
	CD: Cedar
	WBK: Weathered Black
	TT: Two Tone
	VG: Verde Green
	SI: Swedish Iron
	OWGT: Old World Gray Textured

Light Source

LED	12L: 12 LEDs	16L: 16 LEDs
CCT - Color Temp (K)	27: 2,700K	30: 3,000K
	35: 3,500K	40: 4,000K
	50: 5,000K	
Distribution Type	T2: Type 2	T3: Type 3
	T4: Type 4	T5: Type 5

Electrical and control

Driver	MDL006: 120V-277V, 60mA	MDH006: 347V-480V, 60mA
	MDL010: 120V-277V, 100mA	MDH010: 347V-480V, 100mA
	MDL014: 120V-277V, 140mA	MDH014: 347V-480V, 140mA
	MDL018: 120V-277V, 180mA	MDH018: 347V-480V, 180mA

Specifications

Fitter	The fitter shall be heavy wall cast aluminum for high tensile strength. It includes 4 stainless steel Allen-head set screws for attachment and slip-fits a 3"OD 3" tall tenon/pole. Offered with a standard fitter (SF) or an optional Utility Fitter (UF) which includes (2) access doors at 180 degrees providing ingress to all of the internal components.
Lens	Optional SoftVue™ lens provides optimal visual comfort. Open Body "50": Uses a .125" thick acrylic lens. Offered in clear (FL), Soft Vue Medium Diffused Acrylic (SV1) or Soft Vue Heavy Diffused Acrylic (SV2). Also available with .188" thick glass lens. Sag Glass (SG) or Frosted Sag Glass (FSG) Full Body Lens "60": Uses a .125" thick impact modified acrylic full body formed lens. Offered in clear (CA) or fully frosted (FA).
Serviceability	Tool-less access to the driver compartment allows for trouble free servicing of the LED Driver and Surge Suppressor.

UL Listing	UL listed per UL1598 and CSA 22.2 No. 250.0 for the United States and Canada. Suitable for Wet Locations.
Electronic Driver	The LED driver is UL recognized and will be securely mounted inside the fixture, for optimized performance and longevity. It will be supplied with a quick-disconnect electrical connector on the power supply, providing easy power connections for fixture installation and maintenance. It will have DC voltage output and be a constant current design. It runs at 50/60HZ and will have overload, overheat, and short circuit protection. It will be supplied with a supplemental line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines. It will be a high efficiency driver with a THD less than 20% and a high-power factor greater than .9. It will be dimming capable using a 0-10V signal, consult factory for more information.
Darksky Certified	Variants of this product is certified through the DarkSky Approval Program (Darksky.org)
NightSky® Friendly	Dark sky compliant optics with a U0 BUG rating for specific configurations.
Finish	Our 6 Stage Polyester Powder coat paint system offers a beautiful high-end finish that holds up to even the most extreme environments. Each part is inspected for quality and consistency before being released for shipment. Our system exceeds AAMA 2604, AAMA 2605, ASTM D523 and ASTM D4214 requirements.
Traditional Finish	Traditional paint finishes are available in Sternberg Lighting's Traditional product line. A range of colors help accent the decorative elements on the product. Finishes are available in textured or smooth. Available finishes include: Black, White, Park Green, Architectural Medium Bronze and Dark Bronze
Sternberg Select Finish	The Sternberg Select antique-inspired palette adds a touch of vintage elegance to modern applications. Old World Gray Textured is a 1 part powder coat with metallic flakes. Verde Green and Swedish Iron is a 2 part finish that includes a powder coat base coat with a hand applied antique top coat. The top coat is unique to each application and changes over time.
Warranty	7-year limited warranty. See Website for Terms and Conditions.
LEDs	The LED's in this system will be fully shielded in a direct downward position to maximize efficiency. The LEDs are mounted to maximize thermal transfer to the heat sink surface. The LEDs shall be 100% recyclable; not contain lead, mercury or any other hazardous substances and shall be RoHS compliant. Lumen maintenance shall be determined in accordance with IESNA TM-21, based on LED manufacturer LM-80 test data of no less than 6,000 hours and in-situ testing of the luminaire by an NVLAP accredited Energy Efficient Lighting Products lab. The high-performance white LEDs will have a predicted lumen depreciation of approximately 100,000 hours with greater than 70% of initial output at 25°C. The high brightness, high-output white LEDs shall be 4000K nominal (2700K, 3000K, 3500K or 5000K optional) correlated color temperature (CCT) with a 70 (minimum) color rendering index (CRI). Consult factory for custom CCT or CRI. The luminaire shall have a minimum _____ (see table) delivered initial lumens when operated at steady state with an average ambient temperature of 25°C (77°F). CCT Lumen Derate Values from 4,000K 2,700K (70+ CRI)= .92 3,000K (70+ CRI)= .95 3,500K (70+ CRI)= 1.03 5,000K (70+ CRI)= 1.00
Optics	The luminaire shall be provided with individual, refractor type optics applied to each LED. The luminaire shall provide Type ____ (2, 3, 4 or 5) light distribution per the IESNA classifications. Testing shall be done in accordance with IESNA LM-79.
Backlight Optical Control	BLOC Optic (BLOC): An optional "Back Light Optical Control" shield can be provided at the factory. This is an internal optic level "House Side Shield" offering significantly reduced backlight and glare while maintaining the original design aesthetics of the luminaire.
Fixed Dimming Resistor Board (FDRB)	Optional numbered 10-step selector switch allows for fine adjustment of the light levels in the field, repeatable from location to location. Offers dimming from 25% to 100% of the original output. Enclosure is composite material, sealed to protect components for the life of the product.

Photocontrols	All Photocells Require Utility Fitter Twist-Lock Style: The photocontrol shall be mounted in the utility fitter and prewired to driver. Utility fitter includes acrylic window to read ambient light levels. The twist lock type photocontrol is instant on with a 3-6 second turn off, and shall turn on at 1.5 footcandles with a turnoff at 2-3 footcandles. Photocontrol is 120-277 volt and warranted for 6 years. For use with standard photocells only, not for use with a wireless network controller. Button Photocell: The photocontrol shall be mounted in the utility fitter and prewired to driver. Utility fitter includes acrylic window to read ambient light levels. The electronic button type photocontrol is instant on with a 5-10 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles. See pole spec sheet for pole mounted version.
IP Rating	IP65 rated when the STANDARD FITTER (SF) is used.
DarkSky Certified	DarkSky Approved Versions E350LED Fixture (Open Body) 2,700K or 3,000K CCT FL, SG, SV1 or SV2 Lenses

Lumen Chart(s)

Tested with CLEAR lens

Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
16L40T_-MDL018	6885	B1U0G1	89.4	6295	B1U0G1	81.8	6810	B1U0G2	88.4	7270	B3U0G1	94.4	77
16L30T_-MDL018	6565	B1U0G1	85.3	6000	B1U0G1	77.9	6495	B1U0G2	84.4	6930	B3U0G1	90.0	77
16L27T_-MDL018	6350	B1U0G1	82.5	5805	B1U0G1	75.4	6280	B1U0G2	81.6	6705	B3U0G1	87.1	77
16L40T_-MDL014	5540	B1U0G1	93.9	5160	B1U0G1	87.5	5620	B1U0G1	95.3	5935	B2U0G1	100.6	59
16L30T_-MDL014	5280	B1U0G1	89.5	4920	B1U0G1	83.4	5360	B1U0G1	90.8	5660	B2U0G1	95.9	59
16L27T_-MDL014	5110	B1U0G1	86.6	4760	B1U0G1	80.7	5185	B1U0G1	87.9	5475	B2U0G1	92.8	59
16L40T_-MDL010	4170	B1U0G1	99.3	3885	B1U0G1	92.5	4225	B1U0G1	100.6	4480	B2U0G1	106.7	42
16L30T_-MDL010	3975	B1U0G1	94.6	3705	B1U0G1	88.2	4030	B1U0G1	96.0	4270	B2U0G1	101.7	42
16L27T_-MDL010	3845	B1U0G1	91.5	3585	B1U0G1	85.4	3895	B1U0G1	92.7	4130	B2U0G1	98.3	42
12L40T_-MDL010	3270	B1U0G1	99.1	2930	B1U0G1	88.8	3170	B1U0G1	96.1	3455	B2U0G0	104.7	33
12L30T_-MDL010	3120	B1U0G1	94.5	2795	B1U0G1	84.7	3020	B1U0G1	91.5	3295	B2U0G0	99.8	33
12L27T_-MDL010	3015	B1U0G1	91.4	2705	B1U0G1	82.0	2925	B1U0G1	88.6	3185	B2U0G0	96.5	33
12L40T_-MDL006	2015	B1U0G1	100.8	1865	B1U0G1	93.3	2030	B1U0G1	101.5	2175	B1U0G0	108.8	20
12L30T_-MDL006	1920	B1U0G1	96.0	1780	B1U0G1	89.0	1935	B1U0G1	96.8	2075	B1U0G0	103.8	20
12L27T_-MDL006	1860	B1U0G1	93.0	1720	B1U0G1	86.0	1875	B1U0G1	93.8	2005	B1U0G0	100.3	20

E350LED - Open Body

Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
16L40T_-MDL018	7050	B2U2G2	91.6	6895	B2U3G2	89.5	7320	B2U3G2	95.1	7780	B3U2G1	101.0	77
16L30T_-MDL018	6720	B2U2G2	87.3	6575	B2U3G2	85.4	6980	B2U3G2	90.6	7420	B3U2G1	96.4	77
16L27T_-MDL018	6080	B2U2G2	79.0	5945	B2U3G2	77.2	6310	B2U3G2	81.9	6705	B3U2G1	87.1	77
16L40T_-MDL014	5865	B2U2G2	99.4	5545	B2U3G2	94.0	5905	B2U2G2	100.1	6270	B3U2G1	106.3	59
16L30T_-MDL014	5590	B2U2G2	94.7	5285	B2U3G2	89.6	5630	B2U2G2	95.4	5980	B3U2G1	101.4	59
16L27T_-MDL014	5055	B2U2G2	85.7	4780	B2U3G2	81.0	5090	B2U2G2	86.3	5405	B3U2G1	91.6	59
16L40T_-MDL010	4400	B1U2G1	104.8	4155	B1U2G1	98.9	4435	B1U2G1	105.6	4675	B2U2G1	111.3	42
16L30T_-MDL010	4195	B1U2G1	99.9	3960	B1U2G1	94.3	4230	B1U2G1	100.7	4455	B2U2G1	106.1	42
16L27T_-MDL010	3795	B1U2G1	90.4	3580	B1U2G1	85.2	3825	B1U2G1	91.1	4030	B2U2G1	96.0	42
12L40T_-MDL010	3340	B1U2G1	101.2	3155	B1U2G1	95.6	3395	B1U2G1	102.9	3655	B2U2G1	110.8	33
12L30T_-MDL010	3185	B1U2G1	96.5	3010	B1U2G1	91.2	3235	B1U2G1	98.0	3485	B2U2G1	105.6	33
12L27T_-MDL010	2880	B1U2G1	87.3	2720	B1U2G1	82.4	2925	B1U2G1	88.6	3150	B2U2G1	95.5	33
12L40T_-MDL006	2090	B1U1G1	104.5	2005	B1U2G1	100.3	2130	B1U2G1	106.5	2280	B1U2G1	114.0	20
12L30T_-MDL006	1995	B1U1G1	99.8	1910	B1U2G1	95.5	2030	B1U2G1	101.5	2175	B1U2G1	108.8	20
12L27T_-MDL006	1800	B1U1G1	90.0	1730	B1U2G1	86.5	1835	B1U2G1	91.8	1965	B1U2G1	98.3	20

E360LED - Full Body Lens

Dimensions



Open Body, Standard Fitter (**E350LED-SF**)



Full Body Lens, Standard Fitter (**E360LED-SF**)



Open Body, Utility Fitter (**E350LED-UF**)



Full Body Lens, Utility Fitter (**E360LED-UF**)



Pier Base (**450PB**)

Options



Fixed Dimming Resistor Board (**FDRB**)



Double Fuse Holder & (2) 3A Fuses (**FHD**)



House Side Shield (**HSS**)

How to Order

Mounting Configuration	Fixture	Fitter	LED	CCT - Color Temp (K)	Distribution Type	Driver	Lens
1W Wall Mount	E350LED Open Body, Medium Euro	SF Standard Fitter	12L 12 LEDs	27 2,700K	T2 Type 2	MDL006 120V-277V, 60mA ⁽²⁾	CA Clear Acrylic ⁽⁴⁾
PT Post Top				30 3,000K		MDH006 347V-480V, 60mA ⁽²⁾	FA Frosted Acrylic ⁽⁴⁾
1A 1 Arm Mount		UF Utility Fitter	16L 16 LEDs	35 3,500K		MDL010 120V-277V, 100mA	FL Flat Lens ⁽⁵⁾
1APT 1 Arm & Post Top				40 4,000K		MDH010 347V-480V, 100mA	SG Sag Glass ⁽⁵⁾
2A 2 Arm Mount @ 180°				50 5,000K		MDL014 120V-277V, 140mA ⁽³⁾	FSG Frosted Sag Glass ⁽⁵⁾
2A90 2 Arm Mount @ 90°						MDH014 347V-480V, 140mA ⁽³⁾	SV1 Flat Soft Vue Light Diffused Acrylic ⁽⁵⁾
2APT 2 Arm @ 180° & Post Top						MDL018 120V-277V, 180mA ⁽³⁾	SV2 Flat Soft Vue Moderate Diffused Acrylic ⁽⁵⁾
3A 3 Arms @ 120° ⁽¹⁾						MDH018 347V-480V, 180mA ⁽³⁾	
3A90 3 Arms @ 90°							
3APT 3 Arm @ 120° & Post Top ⁽¹⁾							
4A 4 Arms @ 90°							
4APT 4 Arm @ 90° & Post Top							
1AM 1 Arm Mid-Mount							
2AM 2 Arm Mid-Mount @180°							
450PB Pier Base							

Notes:

1. Only available with a round profile pole.

2. 12L system only.

3. 16L system only.

4. For Full Body Lens "60" model only.

5. For Open Body "50" model only.

How to Order

Optional Control Receptacle ⁽⁶⁾ ⁽⁷⁾ ⁽⁸⁾	Optional Control ⁽⁶⁾	Optional Fuse ⁽¹⁰⁾	Optional House Side Shield ⁽¹¹⁾	Optional Fixed Dimming Resistor Board ⁽¹²⁾	Finish
R7 7-Pin control receptacle only	PE Twist-Lock Photocontrol (120V-277V) ⁽⁹⁾ PE4 Twist-Lock Photocontrol (347V-480V) ⁽⁹⁾ SC Shorting Cap ⁽⁹⁾ PEC Electronic Button Photocontrol (120V-277V) PEC4 Electronic Button Photocontrol (480V)	FHD Double Fuse and Holder	BLOC Back Light Optical Control	FDRB Fixed Dimming Resistor Board	BKT Black Textured ⁽¹³⁾ WHT White Textured ⁽¹³⁾ PGT Park Green Textured ⁽¹³⁾ ABZT Architectural Medium Bronze Textured ⁽¹³⁾ DBT Dark Bronze Textured ⁽¹³⁾ CM Custom Match ⁽¹⁴⁾ OI Old Iron ⁽¹⁴⁾ RT Rust ⁽¹⁴⁾ WBR Weathered Brown ⁽¹⁴⁾ CD Cedar ⁽¹⁴⁾ WBK Weathered Black ⁽¹⁴⁾ TT Two Tone ⁽¹⁴⁾ VG Verde Green SI Swedish Iron OWGT Old World Gray Textured

- Notes:
6. For use with "UF" utility fitter only.

7. Not for use with FDRB.

8. For use with standard 3-Pin photocells only, not for use with a wireless network controller.

9. Requires control receptacle.

10. Ships loose for installation in base.

11. Not for use with T5 optic.

12. Not for use with R7.

13. Smooth finishes are available upon request.

14. Custom colors require upcharge.



K595 ARISTOCRAT - LED

The King Luminaire K595 Aristocrat is a versatile luminaire suitable for contemporary or traditional settings. Featuring our high performance P4 LED engine and zero uplift, it is a perfect solution for city streets, parks, schools and commercial areas.



King Luminaire

PRODUCT SPECIFICATIONS

LED ENGINE

Light engine shall include an array of Cree X-Series high power LEDs (light emitting diodes). The emitters shall be mounted to a metal core circuit board using SMT technology. The LEDs and circuit boards shall then be mounted to a high performance heat sink.

OPTICS

External light control shall consist of high precision refractive lenses mounted above the LED emitter arrays in such a way to achieve optimum uplight control. The lenses shall also control horizontal light distribution so that Type II, III, IV or V IESNA distribution patterns are achieved.

LENS

The K595 Aristocrat is available with or without a lens. Lens options include a clear sag glass and clear shallow glass made of #9000 clear borosilicate glass (fully annealed). It shall maintain a minimum thickness of 0.16". The lens is secured by means of a cast aluminum holding ring. Additionally, a continuous circular gasket rated for 270°F will assist in sealing the lens and provide an IP66 ingress rating.

LUMINAIRE CONSTRUCTION

All K595 Aristocrat cast components shall consist of a heavy cast aluminum. The spun aluminum canopy assembly acts as an enclosure for the driver assembly and is of adequate thickness to give sufficient structural rigidity.

The four cast aluminum struts are mechanically attached by stainless steel screws to both the capital (bottom) and the spun aluminum canopy.

The capital shall have an opening at the base tenon body to allow the luminaire to be mounted to a tenon of 3-1/2" maximum diameter. The luminaire shall be locked in place by means of heavy duty, stainless steel set-screws.

DRIVER

The LED universal dimmable driver will be class 2 and capable of 120 - 277V or 347 - 480V input voltage, greater than 0.9 power

factor, and less than 20% total harmonic distortion. The case temperature of the driver can range from -40°C to 70°C. Each LED system comes with a standard surge protection designed to withstand up to 20kV/10kA of transient line surge as per IEEE C62.41.2 C High. An in-line ferrite choke is utilized to provide protection against EFT's. The driver assembly will be mounted on a heavy duty fabricated galvanized steel bracket to allow complete tool-less maintenance. Dimming capable using 1-10vdc (10% to 100%), 10v PWM, or resistance.

PHOTOMETRICS

Fixtures are tested to IESNA LM79 specifications. These reports are available upon request.

CHROMATICITY

High output LEDs come standard at 3000K & 4000K (+/- 300K) with a minimum nominal 70 CRI. Additional CCT emitters are available upon request.

LUMEN MAINTENANCE

Reported (TM21) and Calculated (L70) reports are available upon request with a minimum calculated value of 100,000 hrs.

WIRING

All internal wiring and connections shall be completed so that it will be necessary only to attach the incoming supply connectors to Mate-N-Lok connectors or to a terminal block. Mate-N-Lok shall be certified for 600V operation. Internal wire connectors shall be crimp connector only and rated at 1000V and 150°C. All wiring to be CSA certified and/or UL listed, type SFF-2, SEWF-2, or SEW-2 No. 14 gauge, 150°C, 600V, and color coded for the required voltage.

THERMALS

Fixtures tested by a DOE sanctioned test facility to determine the maximum in-situ solder-point or junction-point temperatures of the LED emitters. This report is available upon request.

FINISH

Housing is finished with a 13 step KingCoat™ SuperDurable poly-

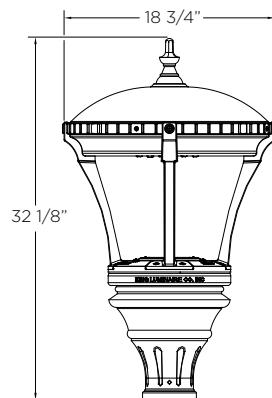
ester TGIC powder coat. Standard colors include strobe white, brown metal, marina blue, gate gray, Chicago bronze, standard gold, standard black, federal green and rain forest. Please see our website for a complete list of colors. RAL and custom color matches are available.

MISCELLANEOUS

All exterior hardware and fasteners, wholly or partly exposed, shall be stainless steel alloy. All internal fasteners are stainless steel or zinc coated steel. All remaining internal hardware is stainless steel, aluminum alloy, or zinc coated steel.

WARRANTY

The K595 Aristocrat LED luminaire comes with a 7 year limited warranty.



SHOWN WITH K30 CAPITAL

CERTIFICATION:

CSA US Listed
Suitable for wet locations
ISO 9001
IP66
ARRA Compliant
LM79 / LM80 Compliant
IDA Certified*

DRIVER INFO:

>0.9 Power Factor
<20% Total Harmonic Distortion
120 - 277V & 347 - 480V
-40°C Min. Case Temperature
70°C Max. Case Temperature
Surge Protection: ANSI C136.2
extreme level 20kV/10kA
Dimming Capable: 1-10vdc

EPA:

With K30 Capital: 0.81 sq. ft.

FIXTURE WEIGHT:

With K30 Capital: 36 lbs

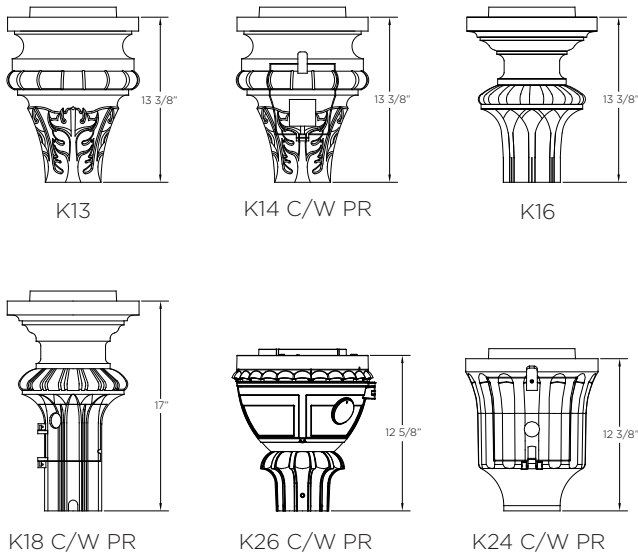


*IDA Certification applicable for maximum 3000K CCT. Glass lenses do not apply. 12-16-2022

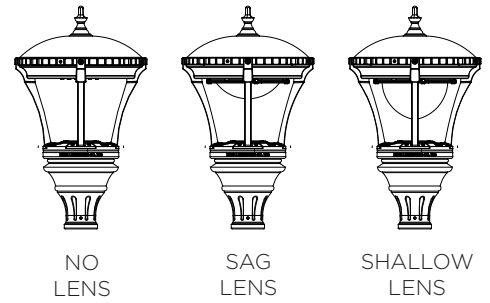
FIXTURE OPTIONS

K595 ARISTOCRAT - LED

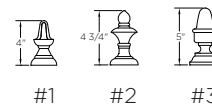
Capital Options



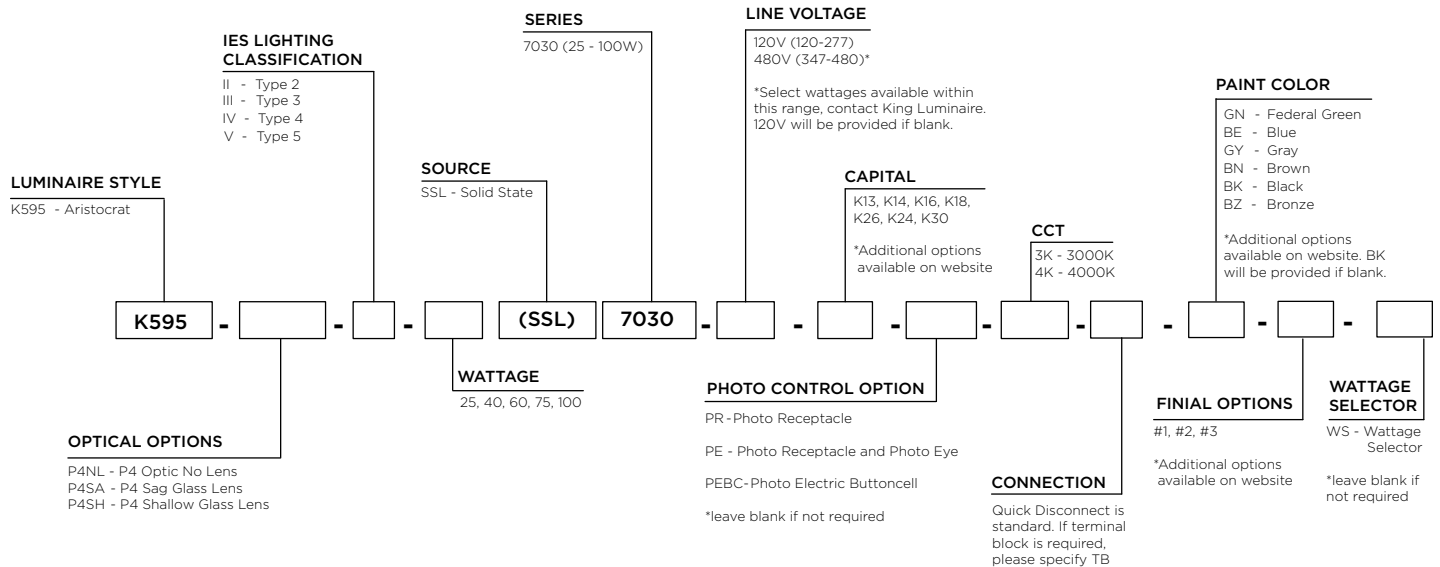
Lens Options



Finial Options



HOW TO ORDER





K137 YARMOUTH (NO GLOBE) - LED

With its simple, yet classic design, the K137 Yarmouth is an excellent fit in architectural locations that are contemporary, historical, or somewhere in between. Teamed with King Luminaire's high performance P4 LED engine it makes for a perfect solution for city streets, parks, schools and commercial areas.



King Luminaire

PRODUCT SPECIFICATIONS

LED ENGINE

Light engine shall include an array of Cree X-Series high power LEDs (light emitting diodes). The emitters shall be mounted to a metal core circuit board using SMT technology. The LEDs and circuit boards shall then be mounted to a high performance heat sink.

OPTICS

External light control shall consist of high precision refractive lenses mounted above the LED emitter arrays in such a way to achieve optimum uplight control. The lenses shall also control horizontal light distribution so that Type II, III, IV or V IESNA distribution patterns are achieved.

LUMINAIRE CONSTRUCTION

All K137 Yarmouth cast components shall consist of a heavy cast aluminum. The main body, or capital, acts as an enclosure for the driver assembly and is of adequate thickness to give sufficient structural rigidity.

The four heavy grade A319 cast aluminum struts that connect the main body and the capital are of adequate thickness to provide structural rigidity.

The capital shall have an opening at the base tenon body to allow the luminaire to be mounted to a tenon of 3-1/2" maximum diameter. The luminaire shall be locked in place by means of heavy duty, stainless steel set-screws.

DRIVER

The LED universal dimmable driver will be class 2 and capable of 120 - 277V or 347 - 480V input voltage, greater than 0.9 power factor, less than 20% total harmonic distortion. The case temperature of the driver can range from -40°C up to 70°C. Each LED system comes with a standard surge protection designed to withstand up to 20kV/10kA of transient line surge as per IEEE C62.41.2 C High. An in-line ferrite choke is utilized to provide protection against EFT's. The driver assembly will be mounted on a heavy duty fabricated galvanized steel mounting bracket to allow complete tool-less maintenance. Dimming capable using 1-10Vdc (10% to 100%), 10v PWM, or resistance.

PHOTOMETRICS

Fixtures are tested to IESNA LM79 specifications. These reports are available upon request.

CHROMATICITY

High output LEDs come standard at 3000K & 4000K (+/- 300K) with a minimum nominal 70 CRI. Additional CCT emitters are available upon request.

LUMEN MAINTENANCE

Reported (TM21) and Calculated (L70) reports are available upon request with a minimum calculated value of 100,000 hrs.

WIRING

All internal wiring and connections shall be completed so that it will be necessary only to attach the incoming supply connectors to Mate-N-Lok connectors or to a terminal block. Mate-N-Lok shall be certified for 600V operation. Internal wire connectors shall be crimp connector only and rated at 1000V and 150°C. All wiring to be CSA certified and/or UL listed, type SFF-2, SEWF-2, or SEW-2 No. 14 gauge, 150°C, 600V, and color coded for the required voltage.

THERMALS

Fixtures tested by a DOE sanctioned test facility to determine the maximum in-situ solder-point or junction-point temperatures of the LED emitters. This report is available upon request.

FINISH

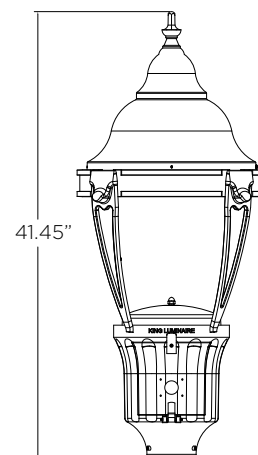
Housing is finished with a 13 step KingCoat™ SuperDurable polyester TGIC powder coat. Standard colors include strobe white, brown metal, marina blue, gate gray, Chicago bronze, standard gold, standard black, federal green and rain forest. Please see our website for a complete list of colors. RAL and custom color matches are available.

MISCELLANEOUS

All exterior hardware and fasteners, wholly or partly exposed, shall be stainless steel alloy. All internal fasteners are stainless steel or zinc coated steel. All remaining internal hardware is stainless steel, aluminum alloy, or zinc coated steel.

WARRANTY

The K137 Yarmouth LED luminaire comes with a 7 year limited warranty.



SHOWN WITH K24 CAPITAL

CERTIFICATION:

CSA US Listed
Suitable for wet locations
ISO 9001
IP66
ARRA Compliant
LM79 / LM80 Compliant
IDA Certified*

DRIVER INFO:

>0.9 Power Factor
<20% Total Harmonic Distortion
120 - 277V & 347 - 480V
-40°C Min. Case Temperature
70°C Max. Case Temperature
Surge Protection: ANSI C136.2
extreme level 20kV/10kA
Dimming Capable: 1-10Vdc

EPA:

1.55 sq. ft.

FIXTURE WEIGHT:

40 lbs

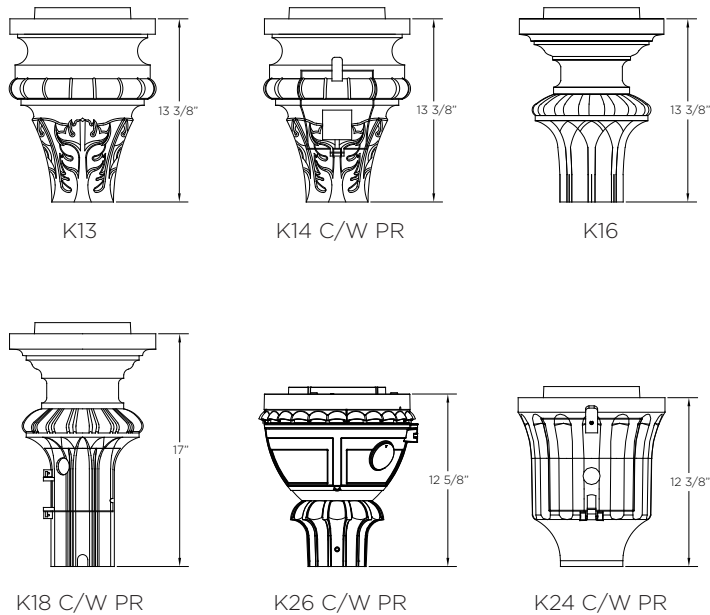


*IDA Certification applicable for maximum 3000K CCT.
Glass lenses do not apply.
Contact King Luminaire for product specifications that are
exempt from CSA Certification
08-10-2021

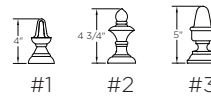
FIXTURE OPTIONS

K137 YARMOUTH (NO GLOBE) - LED

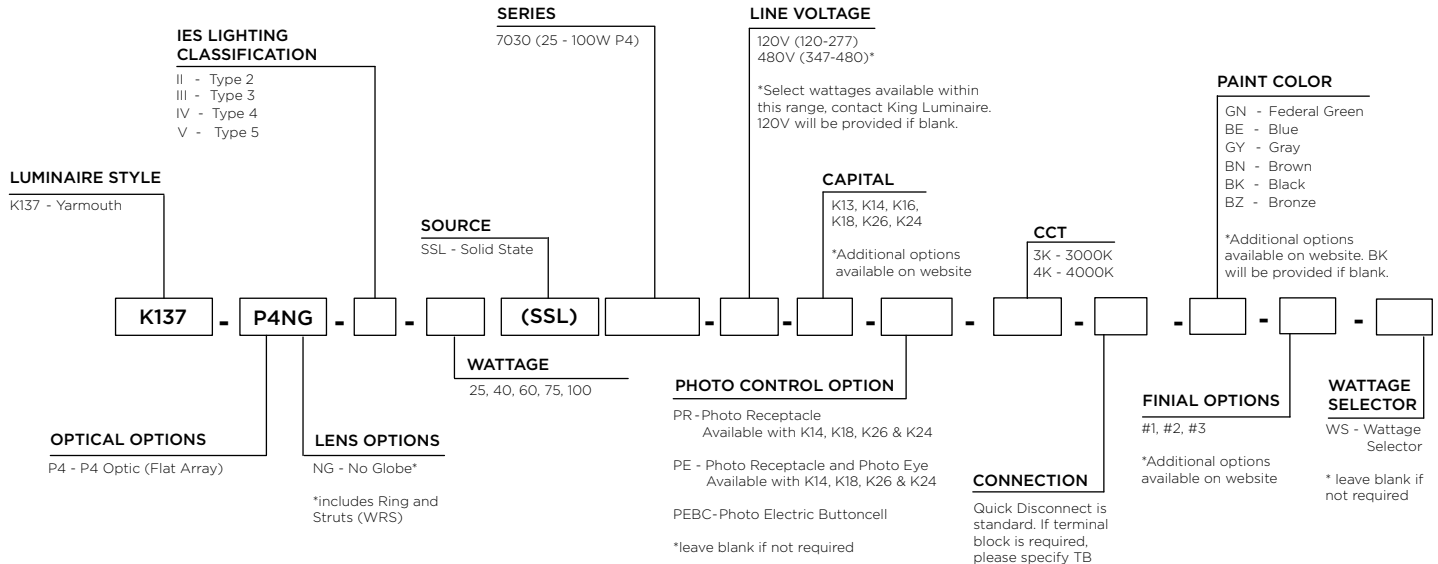
Capital Options



Finial Options



HOW TO ORDER



Catalog Number	
Notes	Type

WFCL3

Utility Washington Series Luminaire
Full Cutoff LED3



Mechanical

- Heavy grade A360 cast aluminum (<1% copper)
- Tool-less access with a spring-loaded latch
- Hidden hinge door allowing the door to swing open and remain open
- Optional internal or external NEMA twist lock photocontrol receptacle. Housing contains a tempered glass window to allow light to reach the cell for internal versions.
- Mount to slip-fitter that will accept 3" high by 2-7/8" to 3-1/8" O.D. pole tenon
- Decorative top cover contains stainless steel hinge which secures entry the LED optical chamber
- Polyester power coat paint to ensure maximum durability
- Rigorous multi-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5,000 hours exposure to salt fog chamber (operated per ASTM B117) on standard and RAL finish options.
- RAL (RALxxxxSDCR) paint colors are Super Durable Corrosion Resistant, 80% gloss.

Electrical

- Surge protection meets ANSI/IEEE C62.41.2 10kV/10kA.
- Standard SPD meets 20kV/10kA per ANSI C136.2-2015
- Quick disconnect connectors for ease of installation and maintenance.
- Three pole terminal block is standard, with optional prewired leads for ease of installation
- LED electronic 0-10v dimmable driver meets maximum total harmonic distortion (THD) of 20%, >0.90 Power Factor and is ROHS compliant.
- Minimum operating temperature is -40°C.
- Electronic driver has an estimated minimum life of 100,000 hours at 25°C.

Optical

- IP65 rated optical compartment
- LED circuit board located in the top cover
- Asymmetric or Symmetric zero uplight distributions
- 2700K, 3000K and 4000K CCT
- 70CRI Standard

Control Options

- Field Adjustable Output (AO) module - Onboard device that adjusts the light output and input wattage to meet site specific requirements. The AO module is preset at the factory to position number 8
- nLight Air RSBOR6 outdoor fixture-mounted motion and photo-sensor, features a dual radio to communicate wirelessly to other nLight Air devices for group response to motion, on/off control in response to daylight and by switch - RSBOR6

- Long life photocontrol, 20 years - PCLL, P34 and P48 with DTL
- 7 pin photocontrol receptacles internally (PR7) or externally (PR7E) mounted in place of the finial
- DTL DIN dedicated bracket with external mounted antenna - DINBRA

Manufacturing

- Manufactured in Crawfordsville, Indiana, ARRA compliant
- 100% electrical testing on all luminaires before shipment
- Ten (10) years minimum experience in manufacturing LED based products

Certification and Standards

- Luminaire shall be UL 1598 - Wet Location Safety Listing
- Suitable for operation in an ambient temperature -40°C (40°F) to 40°C (104°F) per UL certification for performance packages P05 thru P100 Type 2, 3 & 5 no glass, P05 thru P90 Type 2, 3, 4 & 5 clear glass and P05 thru P90 Type 3 & 5 frosted glass
- Suitable for operation in an ambient temperature -40°C (40°F) to 35°C (95°F) per UL certification for performance packages P100 Type 45 no glass, P100 Type 2, 3, 4 & 5 clear glass and P100 Type 3 & 5 frosted glass
- LM79 compliant
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Buy American Act

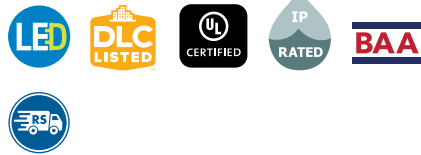
This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/resources/buy-american for additional information.

Warranty

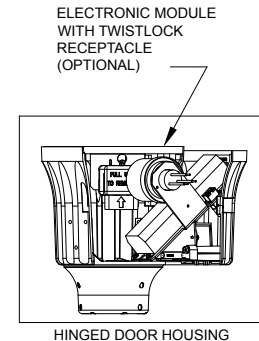
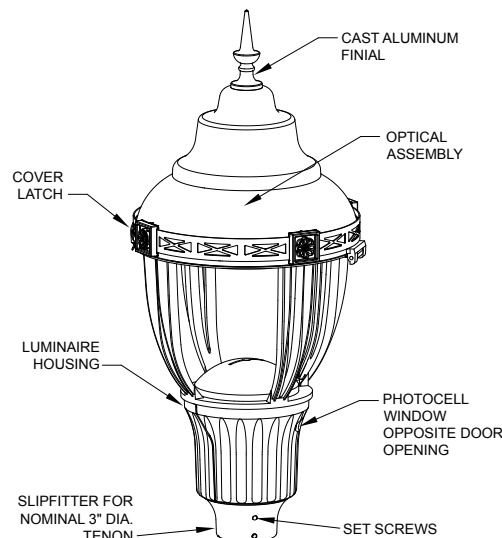
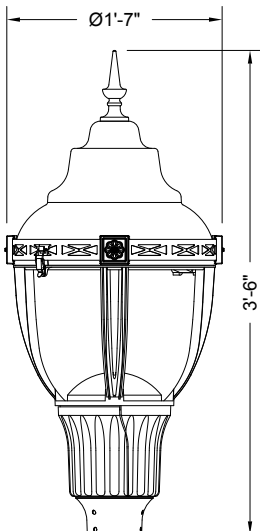
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.



DIMENSIONAL DATA



Maximum Weight - 53 lbs
Maximum Effective Projected Area - 1.72 sq. ft.

ORDERING INFORMATION (refer to page 3 for configurable options)

Example: WFCL3 P20 30K MVOLT FC3 BK NF PR7E

Series		Led performance package		LED Color temperature		Voltage		Optics		Housing Color		Finial	
WFCL3	Utility Washington LED FCO	P05	3,200 nominal lumens	27K	2700K CCT	MVOLT	Auto-sensing voltage (120 thru 277) 50/60 HZ	FC2	Type 2 distribution full cutoff	BK	Black	NF	None
		P10	4,500 nominal lumens	30K	3000K CCT					GR	Gray	BL	Ball
		P20	5,600 nominal lumens	40K	4000K CCT					GH	Graphite	SK	Spike
		P30	7,000 nominal lumens			HVOLT	Auto-sensing voltage (347 thru 480) 50/60 HZ	FC3	Type 3 distribution full cutoff	GN	Green		
		P40	8,100 nominal lumens							PP	Prime paint		
		P50	9,200 nominal lumens							WH	White		
		P60	10,200 nominal lumens			XVOLT	Auto-sensing voltage (277 thru 480V) with enhanced power quality protection	FC4	Type 4 distribution full cutoff	BZ	Bronze		
		P70	10,800 nominal lumens							RALxxxxSDCR		RAL Super Durable Corrosion Resistant, 80% Gloss Paint, replace xxxx with RAL number.	
		P80	11,700 nominal lumens							CMC		Custom color match	
		P90	12,700 nominal lumens										
		P100	13,600 nominal lumens										

Options: Option Compatibility Matrix on page 3 of 4		
CONTROLS OPTIONS		PREWIRED LEAD OPTIONS
A0	Field Adjustable Output	L1H 1.5 ft prewired leads
DINBRA	DTL DIN node bracket with external mounted antenna, DTL DIN node ordered and shipped separately	L03 3 ft prewired leads
PR7	NEMA twistlock dimming photocontrol receptacle - 7 pin	L10 10 ft prewired leads
PR7E	NEMA twistlock dimming photocontrol receptacle - 7 Pin (Must use NF Finial Option)	L20 20 ft prewired leads
PCLL	Long Life DTL Twistlock Photocontrol for Solid State, MVOLT	L25 25 ft prewired leads
P34	Long Life DTL Twistlock Photocontrol for Solid State, 347V	L30 30 ft prewired leads
P48	Long Life DTL Twistlock Photocontrol for Solid State, 480V	
SH	Shorting Cap	
RSBOR6	nLight Motion Sensing Photocontrols	
		OPTIC OPTIONS
		CLGL Clear tempered glass lens
		FRGL 10% Frosted tempered glass lens
		HSS Louvered house side shield
		LEM REVEAL COLOR OPTIONS
		MHC LEM Reveal Plate Painted to match Housing Color
		NEMA LABEL OPTIONS
		NL1X1 1" X 1" ANSI Wattage Label
		NL2X2 2" X 2" ANSI Wattage Label

Accessories: Order as separate catalog number.	
HOUSE SIDE SHIELD	SURGE PROTECTION KITS
CLHSSNG25 No glass, Type 2 & Type 5 - Louvered house side shield	SPDPLUGIN MVOLT-20KV Replacement for 120-277V 20KV/ 10KA
CLHSSNG34 No glass, Type 3 & Type 4 - Louvered house side shield	SPDPLUGIN HVOLT-20KV Replacement for 347-480V 20KV/ 10KA
CLHSSGL25 Glass, Type 2 & Type 5 - Louvered house side shield	
CLHSSGL34 Glass, Type 3 & Type 4 - Louvered house side shield	

FINIAL INFORMATION

Mark Appropriate Box for Finial Options



Spike (SK)

☐

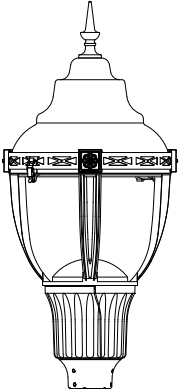


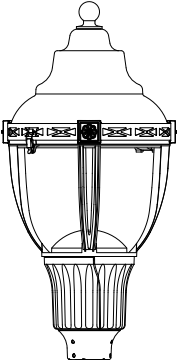
Ball (BL)

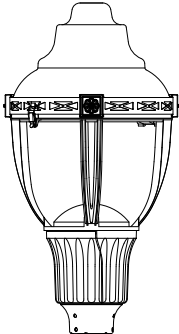
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No Finial (NF)

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OPTIONS MATRIX

Option Matrix		LED Package										Voltage			Distribution				Finials			Options																
		P05	P10	P20	P30	P40	P50	P60	P70	P80	P90	P100	MVOLT	HVOLT	XVOLT	FC2	FC3	FC4	FC5	BL	NF	SK	A0	DALI	DINBRA	PR7	PR7E	PCLL	PC34	PC48	RSBOR6	SH	HSS	MHC	CLGL	FRGL		
LED Package	P05		N	N	N	N	N	N	N	N	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P10	N		N	N	N	N	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P20	N	N		N	N	N	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P30	N	N	N		N	N	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P40	N	N	N	N		N	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P50	N	N	N	N	N		N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P60	N	N	N	N	N	N		N	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P70	N	N	N	N	N	N	N		N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P80	N	N	N	N	N	N	N	N		N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P90	N	N	N	N	N	N	N	N	N		N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P100	N	N	N	N	N	N	N	N	N	N		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C
Voltage	MVOLT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	
	HVOLT	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N		N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y			
	XVOLT	N	N	N	N	N	N	N	Y	Y	Y	N	N		Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y			
Distributions	FC2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		N	N	N	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
	FC3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N		N	N	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	FC4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N		N	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N		
	FC5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N		Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Finials	BL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		N	N	Y	RFD	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	NF	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N		N	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	SK	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N		Y	RFD	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Options	A0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		N	N	Y	Y	N	N	N	N	N	Y	Y	Y	Y	Y	
	DALI	RFD	RFD	RFD	RFD	RFD	RFD	RFD	RFD	RFD	RFD	RFD	RFD	N	N	RFD	RFD	RFD	RFD	RFD	RFD	RFD	N		RFD	N	N	N	N	N	N	N	N	RFD	RFD	RFD	RFD	
	DINBRA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	RFD		N	N	N	N	N	N	N	Y	Y	Y	Y	Y		
	PR7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N		N	Y	Y	Y	N	Y	Y	Y	Y	Y		
	PR7E	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	N	N	N		Y	Y	Y	N	Y	Y	Y	Y	Y		
	PCLL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y		N	N	N	Y	Y	Y	Y	Y		
	PC34	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	N		N	N	N	Y	Y	Y	Y		
	PC48	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	N	N		N	N	Y	Y	Y	Y		
	RSBOR6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N		N	Y	Y	Y	Y		
	SH	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	N		Y	Y	Y	Y	
	HSS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	
	MHC	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	N		
	CLGL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		N		
	FRGL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N			

Y = Combination available / N = Combination not available / RFD = Additional information required, consult factory

LUMEN AMBIENT TEMPERATURE (LAT) MULTIPLIERS

Use the factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F)

Ambient Temp.		Lumen Maintenance - LLD (by Performance Package)											
°C	°F	P05	P10	P20	P30	P40	P50	P60	P70	P80	P90	P100	
0	32	1.03	1.03	1.04	1.04	1.04	1.04	1.04	1.04	1.05	1.05	1.05	
5	41	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.04	1.04	1.04	1.04	
10	50	1.02	1.02	1.02	1.02	1.02	1.03	1.03	1.03	1.03	1.03	1.03	
15	59	1.01	1.01	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	
20	68	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
25	77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
30	86	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
35	95	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
40	104	0.98	0.98	0.98	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	

PROJECTED LED LUMEN MAINTENANCE

Data references the extrapolated performance projections for the platforms noted in 25°C ambient, based on 6,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11). To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Lumen Maintenance - LLD (by Performance Package)								
Hours	0	25,000	36,000	50,000	60,000	67,500	75,000	100,000
P05 - P70	1.00	0.94	0.92	0.89	0.87	0.86	0.84	0.79
P80 - P100	1.00	0.93	0.91	0.87	0.85	0.83	0.81	0.76

PERFORMANCE DATA

STANDARD OPTIONS: NO GLASS

LED Package	Glass/Optic	System Watts	27K (27000K, 70CRI)					30K (3000K, 70CRI)					40K (4000K, 70CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P05	FC2	30	3,054	102	1	0	1	3,105	104	1	0	1	3,317	111	1	0	1
	FC3		3,111	104	1	0	1	3,163	105	1	0	1	3,379	113	1	0	1
	FC4		3,068	102	1	0	1	3,119	104	1	0	1	3,332	111	1	0	1
	FC5		3,334	111	2	0	1	3,389	113	2	0	1	3,621	121	3	0	1
P10	FC2	39	4,294	110	1	0	2	4,365	112	1	0	2	4,663	120	1	0	2
	FC3		4,374	112	1	0	1	4,447	114	1	0	1	4,750	122	1	0	1
	FC4		4,314	111	1	0	2	4,385	112	1	0	2	4,685	120	1	0	2
	FC5		4,687	120	3	0	1	4,765	122	3	0	1	5,090	131	3	0	1
P20	FC2	48	5,284	110	1	0	2	5,372	112	1	0	2	5,738	120	2	0	2
	FC3		5,383	112	1	0	2	5,472	114	1	0	2	5,845	122	1	0	2
	FC4		5,309	111	1	0	2	5,397	112	1	0	2	5,765	120	1	0	2
	FC5		5,768	120	3	0	1	5,864	122	3	0	1	6,264	131	3	0	2
P30	FC2	59	6,750	114	2	0	2	6,862	116	2	0	2	7,330	124	2	0	2
	FC3		6,649	113	1	0	2	6,759	115	1	0	2	7,221	122	2	0	2
	FC4		6,413	109	2	0	2	6,520	111	2	0	2	6,965	118	2	0	2
	FC5		7,386	125	3	0	2	7,509	127	3	0	2	8,021	136	3	0	2
P40	FC2	69	7,911	115	2	0	2	8,042	117	2	0	2	8,591	125	2	0	3
	FC3		7,792	113	2	0	2	7,921	115	2	0	2	8,462	123	2	0	2
	FC4		7,319	106	2	0	2	7,440	108	2	0	2	7,948	115	2	0	2
	FC5		8,656	125	4	0	2	8,800	128	4	0	2	9,400	136	4	0	2
P50	FC2	81	8,924	110	2	0	3	9,072	112	2	0	3	9,692	120	2	0	3
	FC3		8,791	109	2	0	2	8,937	110	2	0	2	9,546	118	2	0	2
	FC4		8,378	103	2	0	2	8,517	105	2	0	2	9,098	112	2	0	2
	FC5		9,766	121	4	0	2	9,928	123	4	0	2	10,605	131	4	0	2
P60	FC2	91	9,944	109	2	0	3	10,109	111	2	0	3	10,799	119	3	0	3
	FC3		9,795	108	2	0	2	9,957	109	2	0	2	10,637	117	2	0	2
	FC4		9,125	100	2	0	2	9,276	102	2	0	2	9,909	109	2	0	3
	FC5		10,881	120	4	0	2	11,062	122	4	0	2	11,816	130	4	0	2
P70	FC2	98	10,475	107	2	0	3	10,649	109	3	0	3	11,375	116	3	0	3
	FC3		10,318	105	2	0	2	10,489	107	2	0	2	11,205	114	2	0	2
	FC4		9,667	99	2	0	3	9,827	100	2	0	3	10,498	107	2	0	3
	FC5		11,462	117	4	0	2	11,652	119	4	0	2	12,447	127	4	0	2
P80	FC2	107	11,437	107	3	0	3	11,627	109	3	0	3	12,421	116	3	0	3
	FC3		11,266	105	2	0	2	11,453	107	2	0	2	12,235	114	2	0	2
	FC4		10,408	97	2	0	3	10,580	99	2	0	3	11,302	106	2	0	3
	FC5		12,516	117	4	0	2	12,723	119	4	0	2	13,592	127	4	0	3
P90	FC2	117	12,338	105	3	0	3	12,543	107	3	0	3	13,399	115	3	0	3
	FC3		12,153	104	2	0	2	12,355	106	2	0	2	13,198	113	2	0	2
	FC4		11,319	97	2	0	3	11,507	98	2	0	3	12,293	105	2	0	3
	FC5		13,501	115	4	0	2	13,725	117	4	0	3	14,662	125	4	0	3
P100	FC2	130	13,177	101	3	0	3	13,396	103	3	0	3	14,310	110	3	0	3
	FC3		12,980	100	2	0	2	13,195	102	2	0	2	14,096	108	3	0	3
	FC4		12,110	93	2	0	3	12,311	95	2	0	3	13,152	101	3	0	3
	FC5		14,419	111	4	0	3	14,658	113	4	0	3	15,659	120	4	0	3

PERFORMANCE DATA
OPTIONAL: CLEAR GLASS

LED Package	Glass/Optic	System Watts	27K (27000K, 70CRI)					30K (3000K, 70CRI)					40K (4000K, 70CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P05	FC2	30	2,759	92	1	0	1	2,804	93	1	0	1	2,996	100	1	0	1
	FC3		2,803	93	1	0	1	2,850	95	1	0	1	3,044	101	1	0	1
	FC4		2,681	89	1	0	1	2,726	91	1	0	1	2,912	97	1	0	1
	FC5		2,975	99	2	0	1	3,025	101	2	0	1	3,231	108	2	0	1
P10	FC2	39	3,878	99	1	0	1	3,943	101	1	0	1	4,212	108	1	0	1
	FC3		3,941	101	1	0	1	4,006	103	1	0	1	4,280	110	1	0	1
	FC4		3,770	97	1	0	1	3,832	98	1	0	1	4,094	105	1	0	1
	FC5		4,183	107	3	0	1	4,252	109	3	0	1	4,543	116	3	0	1
P20	FC2	48	4,773	99	1	0	1	4,852	101	1	0	1	5,183	108	1	0	1
	FC3		4,850	101	1	0	1	4,930	103	1	0	1	5,267	110	1	0	1
	FC4		4,639	97	1	0	1	4,716	98	1	0	1	5,038	105	1	0	1
	FC5		5,148	107	3	0	1	5,233	109	3	0	1	5,590	116	3	0	1
P30	FC2	59	6,050	103	2	0	2	6,150	104	2	0	2	6,570	111	2	0	2
	FC3		6,052	103	1	0	1	6,152	104	1	0	1	6,572	111	1	0	2
	FC4		5,604	95	1	0	2	5,697	97	1	0	2	6,086	103	1	0	2
	FC5		6,444	109	3	0	1	6,551	111	3	0	1	6,998	119	3	0	1
P40	FC2	69	7,090	103	2	0	2	7,208	104	2	0	2	7,699	112	2	0	2
	FC3		7,092	103	2	0	2	7,210	104	2	0	2	7,702	112	2	0	2
	FC4		6,396	93	2	0	2	6,502	94	2	0	2	6,945	101	2	0	2
	FC5		7,551	109	3	0	2	7,677	111	3	0	2	8,201	119	3	0	2
P50	FC2	81	7,999	99	2	0	2	8,131	100	2	0	2	8,686	107	2	0	2
	FC3		8,001	99	2	0	2	8,134	100	2	0	2	8,689	107	2	0	2
	FC4		7,321	90	2	0	2	7,442	92	2	0	2	7,950	98	2	0	2
	FC5		8,519	105	3	0	2	8,660	107	3	0	2	9,251	114	3	0	2
P60	FC2	91	8,912	98	2	0	2	9,060	100	2	0	2	9,678	106	2	0	2
	FC3		8,915	98	2	0	2	9,063	100	2	0	2	9,682	106	2	0	2
	FC4		7,974	88	2	0	2	8,106	89	2	0	2	8,659	95	2	0	2
	FC5		9,492	104	3	0	2	9,650	106	3	0	2	10,308	113	4	0	2
P70	FC2	98	9,388	96	2	0	2	9,544	97	2	0	2	10,195	104	2	0	2
	FC3		9,391	96	2	0	2	9,547	97	2	0	2	10,199	104	2	0	2
	FC4		8,448	86	2	0	2	8,588	88	2	0	2	9,174	94	2	0	2
	FC5		9,999	102	3	0	2	10,165	104	3	0	2	10,859	111	4	0	2
P80	FC2	107	10,251	96	2	0	2	10,421	97	2	0	2	11,132	104	3	0	3
	FC3		10,254	96	2	0	2	10,425	97	2	0	2	11,136	104	2	0	2
	FC4		9,095	85	2	0	2	9,246	86	2	0	2	9,877	92	2	0	2
	FC5		10,918	102	4	0	2	11,099	104	4	0	2	11,857	111	4	0	2
P90	FC2	117	11,058	95	3	0	3	11,241	96	3	0	3	12,009	103	3	0	3
	FC3		11,062	95	2	0	2	11,245	96	2	0	2	12,013	103	2	0	2
	FC4		9,892	85	2	0	2	10,056	86	2	0	2	10,742	92	2	0	2
	FC5		11,778	101	4	0	2	11,973	102	4	0	2	12,790	109	4	0	2
P100	FC2	130	11,810	91	3	0	3	12,006	92	3	0	3	12,826	99	3	0	3
	FC3		11,814	91	2	0	2	12,010	92	2	0	2	12,830	99	2	0	2
	FC4		10,583	81	2	0	2	10,759	83	2	0	2	11,493	88	2	0	2
	FC5		12,579	97	4	0	2	12,787	98	4	0	2	13,660	105	4	0	2

PERFORMANCE DATA
OPTIONAL: FROSTED GLASS

LED Package	Glass/Optic	System Watts	27K (27000K, 70CRI)					30K (3000K, 70CRI)					40K (4000K, 70CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P05	FC3	30	1,962	65	1	0	1	1,994	66	1	0	1	2,130	71	1	0	1
	FC5		2,070	69	1	0	1	2,105	70	1	0	1	2,248	75	1	0	1
P10	FC3	39	2,758	71	1	0	1	2,804	72	1	0	1	2,995	77	1	0	1
	FC5		2,911	75	1	0	1	2,959	76	1	0	1	3,161	81	1	0	1
P20	FC3	48	3,394	71	2	0	1	3,450	72	2	0	1	3,686	77	2	0	1
	FC5		3,582	75	2	0	1	3,641	76	2	0	1	3,890	81	2	0	1
P30	FC3	59	4,162	71	2	0	1	4,231	72	2	0	1	4,520	77	2	0	1
	FC5		4,425	75	2	0	1	4,498	76	2	0	1	4,805	81	2	0	1
P40	FC3	69	4,878	71	2	0	2	4,959	72	2	0	2	5,297	77	2	0	2
	FC5		5,185	75	2	0	1	5,271	76	2	0	1	5,631	82	2	0	1
P50	FC3	81	5,503	68	2	0	2	5,594	69	2	0	2	5,976	74	2	0	2
	FC5		5,850	72	2	0	1	5,947	73	2	0	1	6,353	78	2	0	1
P60	FC3	91	6,131	67	2	0	2	6,233	68	2	0	2	6,659	73	2	0	2
	FC5		6,518	72	2	0	1	6,626	73	2	0	1	7,078	78	2	0	1
P70	FC3	98	6,459	66	2	0	2	6,566	67	2	0	2	7,014	72	2	0	2
	FC5		6,866	70	2	0	1	6,980	71	2	0	1	7,456	76	2	0	1
P80	FC3	107	7,052	66	2	0	2	7,169	67	2	0	2	7,659	72	2	0	2
	FC5		7,497	70	2	0	1	7,621	71	2	0	2	8,142	76	3	0	2
P90	FC3	117	7,608	65	2	0	2	7,734	66	2	0	2	8,262	71	2	0	2
	FC5		8,087	69	3	0	2	8,221	70	3	0	2	8,783	75	3	0	2
P100	FC3	130	8,125	63	2	0	2	8,260	64	2	0	2	8,824	68	2	0	2
	FC5		8,637	66	3	0	2	8,781	68	3	0	2	9,380	72	3	0	2

COMPONENTS & OPTIONS DATA



AO
Manual field adjustable output dimming device



HSS
*Minimize backlight with a louvered house-side-shield.
Available as a factory installed*

Performance Package	FAO Position	% Lumen Output	% Wattage
P05-P20	8	100%	100%
	7	94%	95%
	6	82%	83%
	5	70%	72%
	4	57%	60%
	3	45%	48%
	2	32%	38%
	1	19%	25%

Performance Package	FAO Position	% Lumen Output	% Wattage
P30-P100	8	100%	100%
	7	94%	93%
	6	83%	81%
	5	71%	69%
	4	59%	56%
	3	46%	44%
	2	33%	32%
	1	19%	20%

ACCESSORIES OPTION DATA



CLHSS
*Minimize backlight with a louvered house-side-shield,
field accessory*



The Rapid Ship Pole and Luminaire program provides quick solutions for urgent needs.

The most popular and readily available are available for those urgent projects. Select from the following options to get up to 20 units shipped in 20 working days or less!

ORDERING INFORMATION

Example: WFCL3 P20 30K MVOLT FC3 BK NF PR7E

Series	Lumen/Wattage Package	Color Temperature	Voltage	Optics	Housing Color	Finial
WFCL3 Utility Washington LED FCO	P05 3,200 nominal lumens	27K 2700 series CCT	MVOLT Auto-sensing voltage (120 thru 277) 50/60 HZ	FC2 Type 2 distribution zero uplight	BK Black	NF None
	P10 4,500 nominal lumens	30K 3000 series CCT	HVOLT Auto-sensing voltage (347 thru 480) 50/60 HZ	FC3 Type 3 distribution zero uplight	GR Gray	BL Ball
	P20 5,600 nominal lumens	40K 4000 series CCT			GH Graphite	SK Spike
	P30 7,000 nominal lumens				GN Green	
	P40 8,100 nominal lumens				WH White	
	P50 9,200 nominal lumens				BZ Bronze	
	P60 10,200 nominal lumens					
	P70 10,800 nominal lumens					
	P80 11,700 nominal lumens					
	P90 12,700 nominal lumens					
	P100 13,600 nominal lumens					
				FC4 Type 4 distribution zero uplight		
				FC5 Type 5 distribution zero uplight		

Options: Option Compatibility Matrix on page 3 of 4		
CONTROLS OPTIONS A0 Field Adjustable Output DINBRA DTL DIN node bracket with external mounted antenna, DTL DIN node ordered and shipped separately PR7 NEMA Twist Lock Dimming photocontrol receptacle - 7 PIN receptacle only. PR7E NEMA Twist Lock Photocontrol Receptacle - 7 PIN. Externally mounted, available with NF option PCLL DTL long life twistlock photocontrol for solid-state MVOLT SH Shorting cap	PREWIRED LEAD OPTIONS L1H 1.5 ft. prewired leads L03 3 ft. prewired leads L10 10 ft. prewired leads L20 20 ft. prewired leads	OPTIC OPTIONS CLGL Clear tempered glass lens FRGL 10% Frosted tempered glass lens HSS House side shield LEM REVEAL COLOR OPTIONS MHC LEM Reveal Plate Painted to match Housing Color NEMA LABEL OPTIONS NL1X1 NEMA Label 1" x 1" NL2X2 NEMA Label 2" x 2"

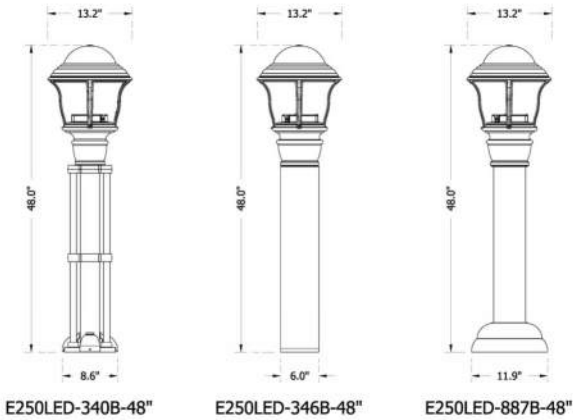
Accessories: Order as separate catalog number, ships separately & field installed.	
HOUSE SIDE SHIELD	
CLHSSNG25	No glass, Type 2 & Type 5 - Louvered house side shield
CLHSSNG34	No glass, Type 3 & Type 4 - Louvered house side shield
CLHSSGL25	Glass, Type 2 & Type 5 - Louvered house side shield
CLHSSGL34	Glass, Type 3 & Type 4 - Louvered house side shield

Project Name

Qty

Type

Catalog / Part Number



Distribution Type	Description
Type 2 Type 3 Type 4 Type 5	The E250LED and E260LED Euro bollard uses small scale fixtures that includes a die-cast aluminum roof, fitter and (4) sweeping support legs. The base portion is offered in a variety of styles from simple to ornate. This unique family adapts classic design elements in a more contemporary package. Available in heights: 36", 42", 48", 54" and 60"
CCT - Color Temp (K)	Physical
2,700K 3,000K 3,500K 4,000K 5,000K	Model E250LED-340B: Open Body, Multi-Tube Bollard E260LED-340B: Full Body Lens, Multi-Tube Bollard E250LED-346B: Open Body, Low-Profile Base Bollard E260LED-346B: Full Body Lens, Low-Profile Base Bollard E250LED-887B: Open Body, Decorative Base Bollard E260LED-887B: Full Body Lens, Decorative Base Bollard
7 Year Warranty	Overall Height (In Inches) 36", 42", 48", 54", 60"
7	Lens CA: Clear Acrylic FA: Frosted Acrylic FL: Flat Lens SV1: Flat Soft Vue Light Diffused Acrylic SV2: Flat Soft Vue Moderate Diffused Acrylic
IP Rating	Optional Chain Loop CL1: Single Chain Loop CL2: Double Chain Loops at 180°
IP 65	Optional Receptacle GFI LPIUC: 120V, 15 Amp Duplex GFCI receptacles with a low-profile in-use cover USB LPIUC: 120V, 15 Amp Duplex USB/ Receptacle combo with a low-profile in-use cover (NON-GFCI)
Certifications	
UL LISTED	

Finish	BKT: Black Textured WHT: White Textured PGT: Park Green Textured ABZT: Architectural Medium Bronze Textured DBT: Dark Bronze Textured CM: Custom Match OI: Old Iron RT: Rust WBR: Weathered Brown CD: Cedar WBK: Weathered Black TT: Two Tone VG: Verde Green SI: Swedish Iron OWGT: Old World Gray Textured	
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Light Source

LED	04L: 4 LEDs 12L: 12 LEDs	08L: 8 LEDs 16L: 16 LEDs
CCT - Color Temp (K)	27: 2,700K 35: 3,500K 50: 5,000K	30: 3,000K 40: 4,000K
Distribution Type	T2: Type 2 T4: Type 4	T3: Type 3 T5: Type 5

Electrical and control

Driver	MDL008: 120V-277V, 80mA MDL009: 120V-277V, 90mA	MDH008: 347V-480V, 80mA MDH009: 347V-480V, 90mA
Optional Photocell	PCD: Electronic Button Photocontrol, mounted on an access door (120V-277V) PCD4: Electronic Button Photocontrol, mounted on an access door (480V)	

Features

Optional Fuse	FHD: Double Fuse and Holder
Optional House Side Shield	BLOC: Back Light Optical Control
Optional Fixed Dimming Resistor Board	FDRB: Fixed Dimming Resistor Board

Specifications

Installation	Hot-dipped galvanized "L" type anchor bolts shall be provided with the post for anchorage. It will include tamper resistant stainless steel hardware. The bollard will be provided with a grounding stud on the base. (340B) - Requires Three 3/8" diameter anchor bolts in a 6.5" bolt circle. It will include a 2.74" conduit opening on base. (346B) - Requires Four 3/8" diameter anchor bolts in a 3.25" bolt circle, diamond pattern. It will include a 2.25" conduit opening on base. (887B) - Requires Four 3/4" diameter anchor bolts in a 8.25" bolt circle, diamond pattern. It will include a 4.8" conduit opening on base.
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Construction	(340B) - Features a multi-tube shaft consisting of a 3" diameter 6061 extruded aluminum tube having a wall thickness of 1/8". It is surrounded by three 1" diameter 6061 extruded aluminum tubes having a wall thickness of 1/4" spaced at 120° and supported by two cast aluminum braces. The anchor base shall be 8" diameter and made of heavy cast aluminum having a floor thickness of 3/4". (346B) - Features a shaft consisting of 6" diameter 6063 extruded aluminum tubing having a wall thickness of 1/4". The anchor base shall be 6" diameter and made of heavy cast aluminum having a floor thickness of 5/8". (887B) - Features a shaft consisting of 5" diameter 6061 extruded aluminum tubing having a wall thickness of 1/4". The anchor base shall be 9.38" square and made of heavy cast aluminum having a floor thickness of 3/4". A 11.9" diameter x 4.63" tall decorative cover is included to cover the base.
Connection	The lower portion of the bollard includes an aluminum tenon for attachment.
Fitter	The fitter shall be heavy wall die cast aluminum for high tensile strength. It includes 4 stainless steel Allen-head set screws for attachment to a pole/tenon. (340B) - The luminaire features a fitter that slip fits a 4" OD x 2.5" tall tenon (346B) -The luminaire features a fitter that slip fits a 5" OD x 2.5" tall tenon (887B) -The luminaire features a fitter that slip fits the 5" OD bollard shaft
Lens	Optional SoftVue™ lens provides optimal visual comfort. E250LED: Uses a .125" thick flat acrylic lens. Offered in clear (FL), Soft Vue Medium Diffused Acrylic (SV1) or Soft Vue Heavy Diffused Acrylic (SV2) E260LED: Uses a .125" thick impact modified acrylic full body formed lens. Offered in clear (CA) or fully frosted (FA)
UL Listing	UL listed per UL1598 and CSA 22.2 No. 250.0 for the United States and Canada. Suitable for Wet Locations.
Electronic Driver	The LED driver is UL recognized and will be securely mounted inside the fixture, for optimized performance and longevity. It will be supplied with a quick-disconnect electrical connector on the power supply, providing easy power connections for fixture installation and maintenance. It will have DC voltage output and be a constant current design. It runs at 50/60HZ and will have overload, overheat, and short circuit protection. It will be supplied with a supplemental line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines. It will be a high efficiency driver with a THD less than 20% and a high-power factor greater than .9. It will be dimming capable using a 0-10V signal, consult factory for more information.
NightSky® Friendly	Dark sky compliant optics with a U0 BUG rating for specific configurations.
IP Rating	IP65 rated
Finish	Our 6 Stage Polyester Powder coat paint system offers a beautiful high-end finish that holds up to even the most extreme environments. Each part is inspected for quality and consistency before being released for shipment. Our system exceeds AAMA 2604, AAMA 2605, ASTM D523 and ASTM D4214 requirements.
Traditional Finish	Traditional paint finishes are available in Sternberg Lighting's Traditional product line. A range of colors help accent the decorative elements on the product. Finishes are available in textured or smooth. Available finishes include: Black, White, Park Green, Architectural Medium Bronze and Dark Bronze
Sternberg Select Finish	The Sternberg Select antique-inspired palette adds a touch of vintage elegance to modern applications. Old World Gray Textured is a 1 part powder coat with metallic flakes. Verde Green and Swedish Iron is a 2 part finish that includes a powder coat base coat with a hand applied antique top coat. The top coat is unique to each application and changes over time.
Warranty	7-year limited warranty. See Website for Terms and Conditions.

LEDs	The LED's in this system will be fully shielded in a direct downward position to maximize efficiency. The LEDs are mounted to maximize thermal transfer to the heat sink surface. The LEDs shall be 100% recyclable; not contain lead, mercury or any other hazardous substances and shall be RoHS compliant. Lumen maintenance shall be determined in accordance with IESNA TM-21, based on LED manufacturer LM-80 test data of no less than 6,000 hours and in-situ testing of the luminaire by an NVLAP accredited Energy Efficient Lighting Products lab. The high-performance white LEDs will have a predicted lumen depreciation of approximately 100,000 hours with greater than 70% of initial output at 25°C. The high brightness, high-output white LEDs shall be 4000K nominal (2700K, 3000K, 3500K or 5000K optional) correlated color temperature (CCT) with a 70 (minimum) color rendering index (CRI). Consult factory for custom CCT or CRI. The luminaire shall have a minimum _____ (see table) delivered initial lumens when operated at steady state with an average ambient temperature of 25°C (77°F). CCT Lumen Derate Values from 4,000K 2,700K (70+ CRI)=.92 3,000K (70+ CRI)=.95 3,500K (70+ CRI)=1.03 5,000K (70+ CRI)=1.00
Optics	The luminaire shall be provided with individual, refractor type optics applied to each LED. The luminaire shall provide Type ____ (2, 3, 4 or 5) light distribution per the IESNA classifications. Testing shall be done in accordance with IESNA LM-79.
Backlight Optical Control	BLOC Optic (BLOC): An optional "Back Light Optical Control" shield can be provided at the factory. This is an internal optic level "House Side Shield" offering significantly reduced backlight and glare while maintaining the original design aesthetics of the luminaire.
Fixed Dimming Resistor Board (FDRB)	Optional numbered 10-step selector switch allows for fine adjustment of the light levels in the field, repeatable from location to location. Offers dimming from 25% to 100% of the original output. Enclosure is composite material, sealed to protect components for the life of the product.
Photocontrols	Button Photocell (On Plate): Optional photocontrol can be mounted on a plate and installed on the pole shaft. The electronic button type photocontrol is instant on with a 5-10 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles.
Receptacle	Optional 120V duplex 15A GFI (GFI LPIUC) or NON-GFI/5A USB combo duplex receptacle (USB LPIUC) installed in proprietary "Low-Profile" box with a lockable In-Use cover (lock not included).
Chain Loop	A single (CL1) or double (CL2) steel chain loop can be added to the bollard. The loop is painted to match the unit. Does not include chain. Consult factory for painted chain

Lumen Chart(s)

Tested with CLEAR lens

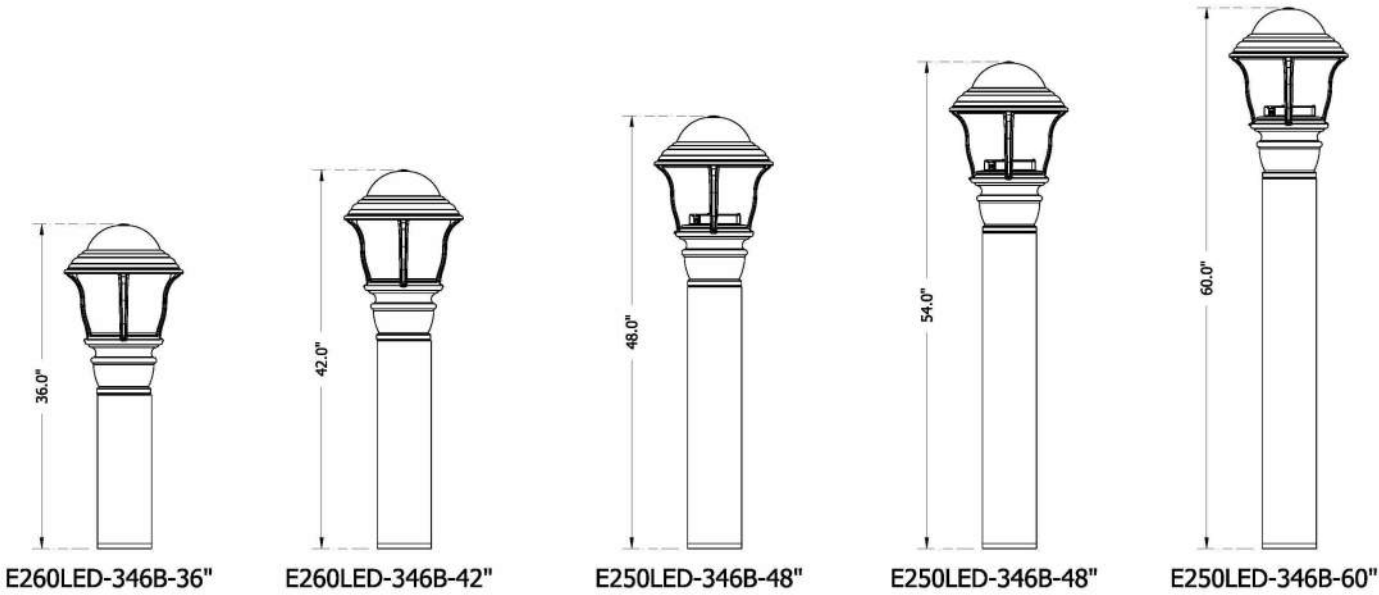
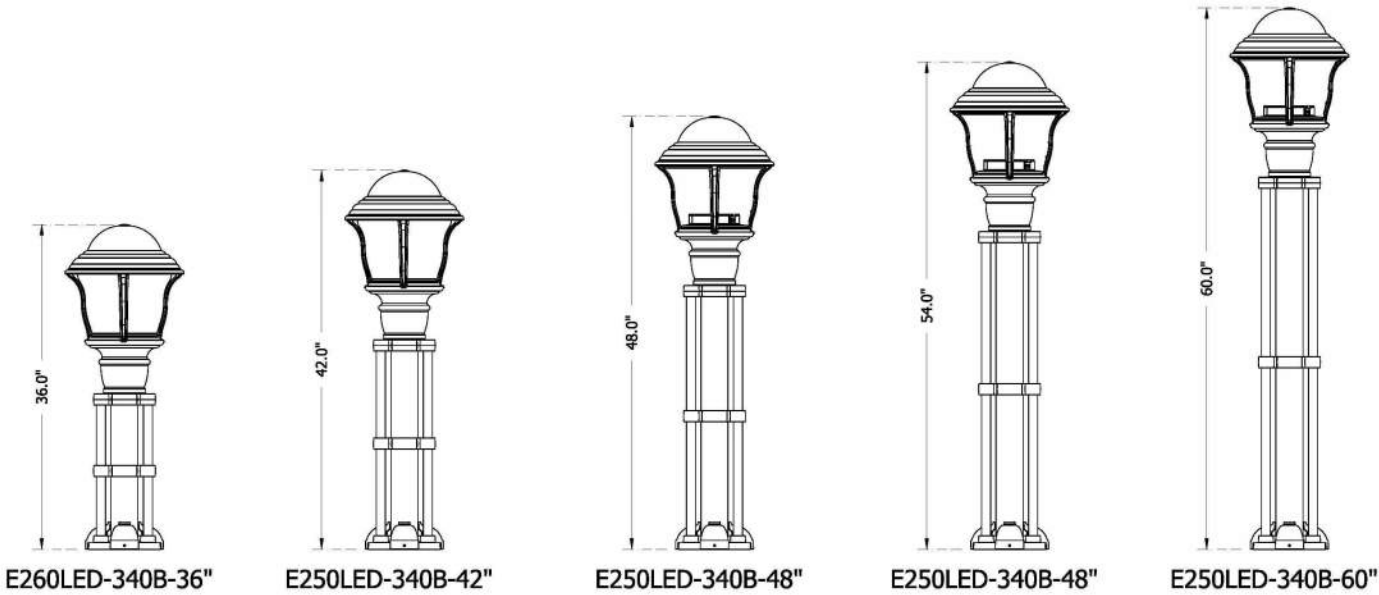
Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
16L40T_-MDL009	3590	B1U0G1	94.5	3445	B1U0G1	90.7	3715	B1U0G1	97.8	4130	B2U0G1	108.7	38
16L30T_-MDL009	3425	B1U0G1	90.1	3285	B1U0G1	86.4	3540	B1U0G1	93.2	3940	B2U0G1	103.7	38
16L27T_-MDL009	3310	B1U0G1	87.1	3180	B1U0G1	83.7	3425	B1U0G1	90.1	3810	B2U0G1	100.3	38
12L40T_-MDL008	2440	B1U0G1	90.4	2360	B1U0G1	87.4	2530	B1U0G1	93.7	2800	B1U0G0	103.7	27
12L30T_-MDL008	2325	B1U0G1	86.1	2250	B1U0G1	83.3	2410	B1U0G1	89.3	2670	B1U0G0	98.9	27
12L27T_-MDL008	2250	B1U0G1	83.3	2175	B1U0G1	80.6	2335	B1U0G1	86.5	2585	B1U0G0	95.7	27
8L40T_-MDL008	1745	B1U0G0	96.9	1625	B1U0G1	90.3	1740	B0U0G0	96.7	1910	B1U0G0	106.1	18
8L30T_-MDL008	1665	B1U0G0	92.5	1550	B1U0G1	86.1	1660	B0U0G0	92.2	1820	B1U0G0	101.1	18
8L27T_-MDL008	1610	B1U0G0	89.4	1500	B1U0G1	83.3	1605	B0U0G0	89.2	1760	B1U0G0	97.8	18
4L40T_-MDL008	875	B0U0G0	79.5	895	B0U0G1	81.4	965	B0U0G0	87.7	1080	B1U0G1	98.2	11
4L30T_-MDL008	835	B0U0G0	75.9	855	B0U0G1	77.7	920	B0U0G0	83.6	1030	B1U0G1	93.6	11
4L27T_-MDL008	805	B0U0G0	73.2	825	B0U0G1	75.0	890	B0U0G0	80.9	995	B1U0G1	90.5	11

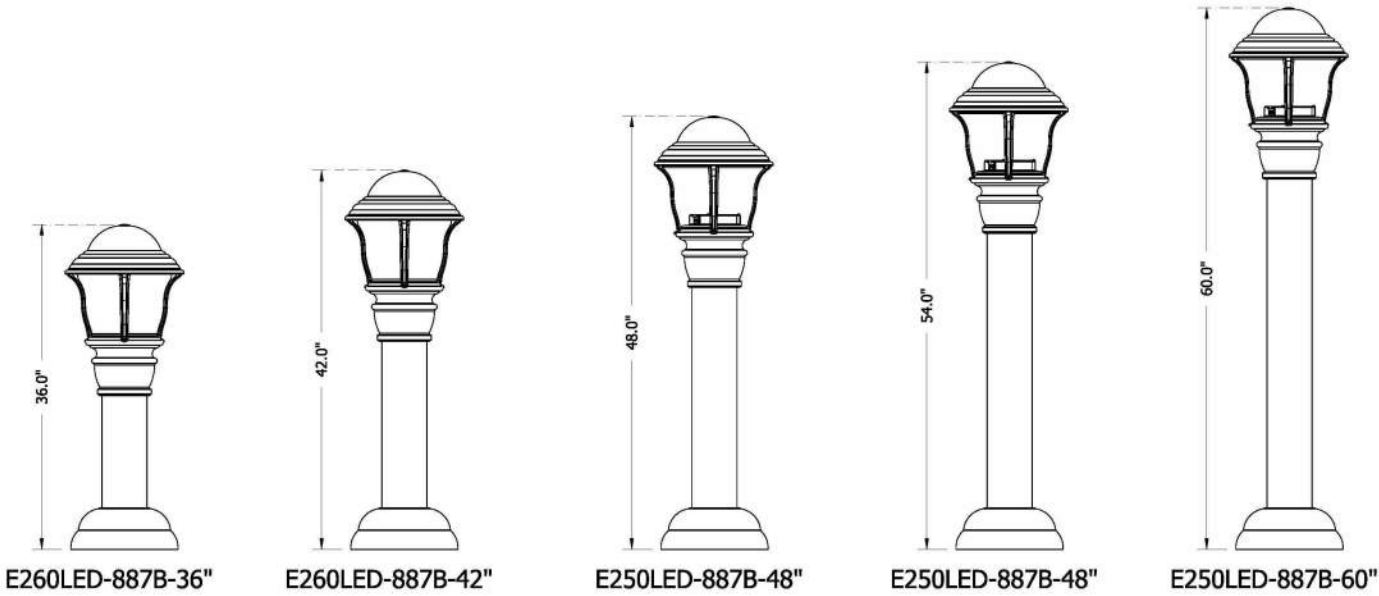
E250LED - Open Body

Model #	T2 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T3 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T4 DELIVERED LUMENS	BUG	EFFICACY (LPW)	T5 DELIVERED LUMENS	BUG	EFFICACY (LPW)	WATTAGE
16L40T_-MDL009	3770	B3U0G3	99.2	3990	B3U0G3	105.0	4170	B3U0G3	109.7	4395	B4U0G2	115.7	38
16L30T_-MDL009	3595	B3U0G3	94.6	3805	B3U0G3	100.1	3975	B3U0G3	104.6	4190	B4U0G2	110.3	38
16L27T_-MDL009	3480	B2U0G2	91.6	3680	B3U0G3	96.8	3845	B2U0G2	101.2	4055	B3U0G2	106.7	38
12L40T_-MDL008	2580	B2U0G2	95.6	2780	B3U0G3	103.0	2790	B2U0G2	103.3	3015	B3U0G2	111.7	27
12L30T_-MDL008	2460	B2U0G2	91.1	2650	B3U0G3	98.1	2660	B2U0G2	98.5	2875	B3U0G2	106.5	27
12L27T_-MDL008	2380	B2U0G2	88.1	2565	B3U0G3	95.0	2575	B2U0G2	95.4	2780	B3U0G2	103.0	27
8L40T_-MDL008	1880	B2U0G2	104.4	1960	B3U0G3	108.9	1965	B2U0G2	109.2	2100	B3U0G2	116.7	18
8L30T_-MDL008	1790	B2U0G2	99.4	1870	B3U0G3	103.9	1875	B2U0G2	104.2	2000	B3U0G2	111.1	18
8L27T_-MDL008	1735	B2U0G2	96.4	1810	B2U0G2	100.6	1815	B2U0G2	100.8	1935	B3U0G2	107.5	18
4L40T_-MDL008	875	B2U0G2	79.5	995	B2U0G2	90.5	1020	B2U0G2	92.7	1135	B3U0G2	103.2	11
4L30T_-MDL008	835	B2U0G2	75.9	950	B2U0G2	86.4	975	B2U0G2	88.6	1080	B3U0G2	98.2	11
4L27T_-MDL008	805	B2U0G2	73.2	920	B2U0G2	83.6	940	B2U0G2	85.5	1045	B3U0G2	95.0	11

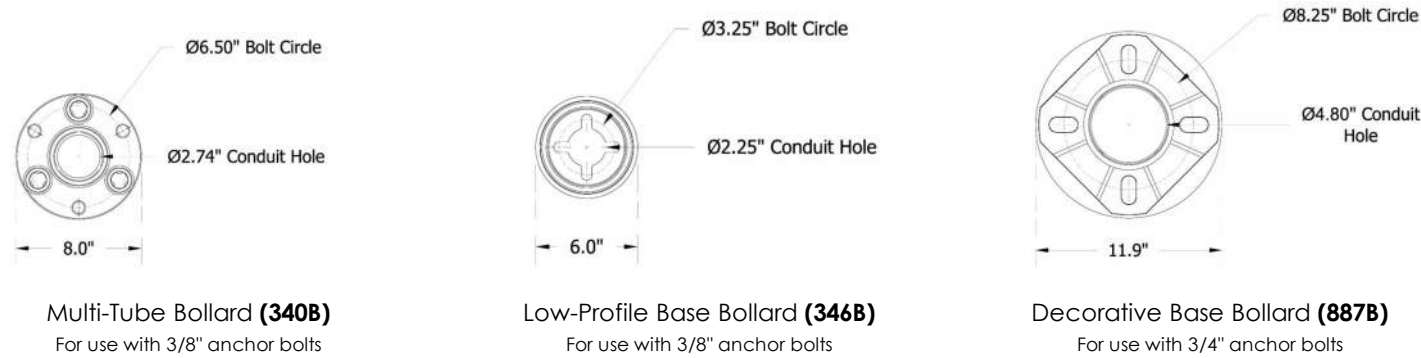
E260LED - Full Body Lens

Dimensions





Anchor Base Detail



Options



Low-Profile In-Use Cover
(GFI LPIUC/USB LPIUC)



Button Photocell On Door (PCD)

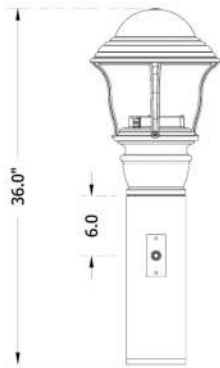


Fixed Dimming Resistor Board (FDRB)

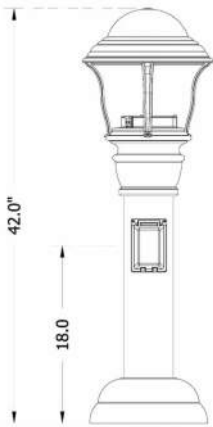


Double Fuse Holder & (2) 3A Fuses
(FHD)

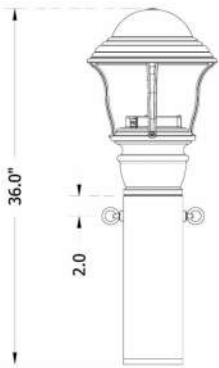
Option Locations



Button Photocell On Door
(PCD/PCD4)



Low-Profile In-Use Cover
(GFI LPIUC/USB LPIUC)



Chain Loops
(CL1/CL2)

How to Order

Model	Overall Height (In Inches)	LED	CCT - Color Temp (K)	Distribution Type	Driver	Lens
E250LED-340B Open Body, Multi-Tube Bollard	36IN 36"	04L 4 LEDs	27 2,700K	T2 Type 2	MDL008 120V-277V, 80mA ⁽¹⁾	CA Clear Acrylic ⁽³⁾
E260LED-340B Full Body Lens, Multi-Tube Bollard	42IN 42"	08L 8 LEDs	30 3,000K	T3 Type 3	MDH008 347V-480V, 80mA ⁽¹⁾	FA Frosted Acrylic ⁽³⁾
E250LED-346B Open Body, Low-Profile Base Bollard	48IN 48"	12L 12 LEDs	35 3,500K	T4 Type 4	MDL009 120V-277V, 90mA ⁽²⁾	FL Flat Lens ⁽⁴⁾
E260LED-346B Full Body Lens, Low-Profile Base Bollard	54IN 54"	16L 16 LEDs	40 4,000K	T5 Type 5	MDH009 347V-480V, 90mA ⁽²⁾	SV1 Flat Soft Vue Light Diffused Acrylic ⁽⁴⁾
E250LED-887B Open Body, Decorative Base Bollard	60IN 60"		50 5,000K			SV2 Flat Soft Vue Moderate Diffused Acrylic ⁽⁴⁾
E260LED-887B Full Body Lens, Decorative Base Bollard						

Notes:

1. 04L, 08L and 12L system only.

2. 16L system only.

3. For Full Body Lens "60" model only.

4. For Open Body "50" model only.

How to Order

Optional Chain Loop	Optional Fuse ⁽⁵⁾	Optional Photocell ⁽⁴⁾	Optional Receptacle ^{(4) (7)}	Optional House Side Shield ⁽⁸⁾	Optional Fixed Dimming Resistor Board	Finish
CL1 Single Chain Loop CL2 Double Chain Loops at 180°	FHD Double Fuse and Holder	PCD Electronic Button Photocontrol, mounted on an access door (120V-277V) PCD4 Electronic Button Photocontrol, mounted on an access door (480V)	GFI LPIUC 120V, 15 Amp Duplex GFCI receptacles with a low-profile in-use cover USB LPIUC 120V, 15 Amp Duplex USB/ Receptacle combo with a low-profile in-use cover (NON-GFCI)	BLOC Back Light Optical Control	FDRB Fixed Dimming Resistor Board	BKT Black Textured ⁽⁹⁾ WHT White Textured ⁽⁹⁾ PGT Park Green Textured ⁽⁹⁾ ABZT Architectural Medium Bronze Textured ⁽⁹⁾ DBT Dark Bronze Textured ⁽⁹⁾ CM Custom Match ⁽¹⁰⁾ OI Old Iron ⁽¹⁰⁾ RT Rust ⁽¹⁰⁾ WBR Weathered Brown ⁽¹⁰⁾ CD Cedar ⁽¹⁰⁾ WBK Weathered Black ⁽¹⁰⁾ TT Two Tone ⁽¹⁰⁾ VG Verde Green SI Swedish Iron OWGT Old World Gray Textured

Notes:

5. Ships loose for installation in base.

6. Not available on (3408)

7. Requires 42" minimum bollard height.

8. Not for use with T5 optic.

9. Smooth finishes are available upon request.

10. Custom colors require upcharge.

SOLID STATE LIGHTING

MOZART BOLLARD-PLED

S P E C I F I C A T I O N S

FIXTURE HOUSING

Optical Crown, Arms and Hub are welded to create a one piece unitized Housing consisting of precise heavy wall cast low copper (A356 alloy; < 0.2%Cu) aluminum. Hood is fastened to the Housing with a stainless steel hinge and secured with a single stainless steel hex head cap screw 180° opposite the hinge. Hood and Optical Crown are sealed with an extruded closed cell silicone gasket. Driver/wiring accessed through top of Electrical Access Hub. All exposed hardware is stainless steel.

RISER AND BASE COVER

Riser is extruded aluminum shaft (6063-T6 Alloy) either smooth or fluted with a minimum wall thickness of .188". Riser is welded to a cast aluminum (A356 alloy; <0.2% Cu) base. Base cover is a 2-piece aluminum casting (A356 alloy; <0.2% Cu) that completely cover the anchors bolts and Riser anchor base.

PLED™ OPTICS

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments.

LED DRIVER(S)

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F. Driver(s) is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer, held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50,60Hz. (0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field accessible installation.)

LED EMITTERS

High output LED's are utilized with drive currents ranging from 175mA to 350mA. 70CRI Minimum. LED's are available in standard Neutral White (4000K), or optional Cool White (5000K) or Warm White (3000K). Consult Factory for other LED options.

AMBER LED's

PCA (Phosphor Converted Amber) LED's utilize phosphors to create color output similar to LPS lamps and have a slight output in the blue spectral bandwidth. **TRA** (True Amber) LED's utilize material that emits light in the amber spectral bandwidth only without the use of phosphors.

FINISH

Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F. Four step media blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability.

PROJECT NAME:

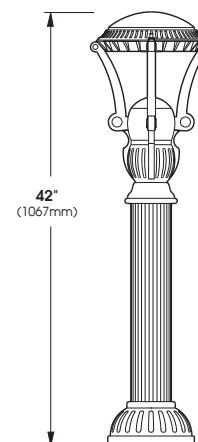
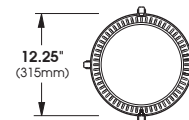
FIXTURE TYPE:



MOZB *

*SHOWN WITH FLUTED RISER

PATENT PENDING



2020125

Sun Valley Lighting

660 West Avenue O, Palmdale, CA 93551
Phone (661) 233-2000 Fax (661) 233-2001
www.usallg.com

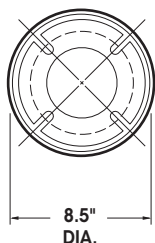


MOZART BOLLARD - PLED

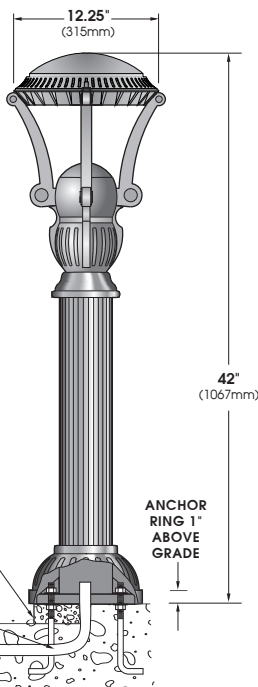
SPECIFICATIONS

GROUND MOUNTING

6" DIA. BOLT CIRCLE



ANCHOR BOLT(4) 3/8" X 10"

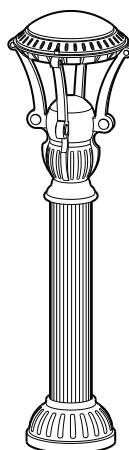


(SEE NOTE)*

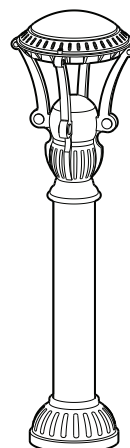
WIRING AND FOOTING BY OTHERS

*When mounting in soil, anchor bolt fasteners and other hardware must be protected from soil by grouting.

PLED® MODULES



MOZB-FL
(Fluted Riser)
Available in:
20LED Module



MOZB-SM
(Smooth Riser)
Available in:
20LED Module



20 LED MODULE

Spec/Order Example: MOZB-SM/PLED-III/20LED-350mA/NW/277/RAL-9003-S/HS-PLED

SPEC / ORDERING INFORMATION

BOLLARD	OPTICS	# of LED's	DRIVE CURRENT	COLOR	VOLTAGE	FINISH	OPTIONS
BOLLARD	OPTICS	LED			VOLTAGE	FINISH	OPTIONS
	PLED® MODULES IES DISTRIBUTION TYPE	# of LED's	DRIVE CURRENT	COLOR TEMP-CCT		STANDARD TEXTURED FINISH	
☐ MOZB-FL (FLUTED RISER)	☐ TYPE II PLED-II	☐ 20LED	☐ 175mA ☐ 350mA	☐ NW (4000K) *STANDARD ☐ CW (5000K) ☐ WW (3000K) OTHER LED COLORS AVAILABLE CONSULT FACTORY	☐ 120 ☐ 208 ☐ 240 ☐ 277 ☐ 347 ☐ 480	☐ BLACK RAL-9005-T ☐ WHITE RAL-9003-T ☐ GREY RAL-7004-T ☐ DARK BRONZE RAL-8019-T ☐ GREEN RAL-6005-T	☐ HOUSE SIDE SHIELDS HS-PLED ☐ HIGH-LOW DIMMING FOR SWITCHING BY OTHERS/SELECT LEVELS 50/100 OR 25/100 (EXAMPLE: HLSW/25) HLSW ☐ PHOTO CELL + VOLTAGE (EXAMPLE: PC120V) . PC+V ☐ SINGLE FUSE (120V, 277V, 347V) . SF ☐ DOUBLE FUSE (208V, 240V, 480V) . DF
☐ MOZB-SM (SMOOTH RISER)	☐ TYPE II FRONT ROW PLED-II-FR ☐ TYPE III MED. PLED-III M ☐ TYPE III WIDE PLED-III W ☐ TYPE IV PLED-IV ☐ TYPE IV PLED-IV-FT ☐ TYPE V NARROW PLED-V-SQ-N ☐ TYPE V MED. PLED-V-SQ-M ☐ TYPE V WIDE PLED-V-SQ-W					FOR SMOOTH FINISH REPLACE SUFFIX "T" WITH SUFFIX "S" (EXAMPLE: RAL-9500-S) SEE USALTG.COM FOR ADDITIONAL COLORS	CONTACT FACTORY FOR STEP DIM MOTION SENSOR (PROGRAMMED 50/100)

MOZART BOLLARD - PLED

ELECTRICAL GUIDE

LED COUNT	SOURCE TYPE	SOURCE	INITIAL LUMENS - 4000K	INITIAL LUMENS - 3000K	INITIAL LUMENS - 5000K	L70 GREATER THAN (HR)-TM21	STARTING TEMP.	SYSTEM WATTS	VOLTS	MAX INPUT AMPS
20	LED	20 PLED® Optical Module - 175mA	1,401 - 1,404	1,226 - 1,229	1,434 - 1,438	60,000+	-20°F	12	120 277	0.24 0.10
20	LED	20 PLED® Optical Module - 350mA	2,501 - 2,789	2,189 - 2,442	2,561 - 2,857	60,000+	-20°F	23	120 277	0.24 0.10

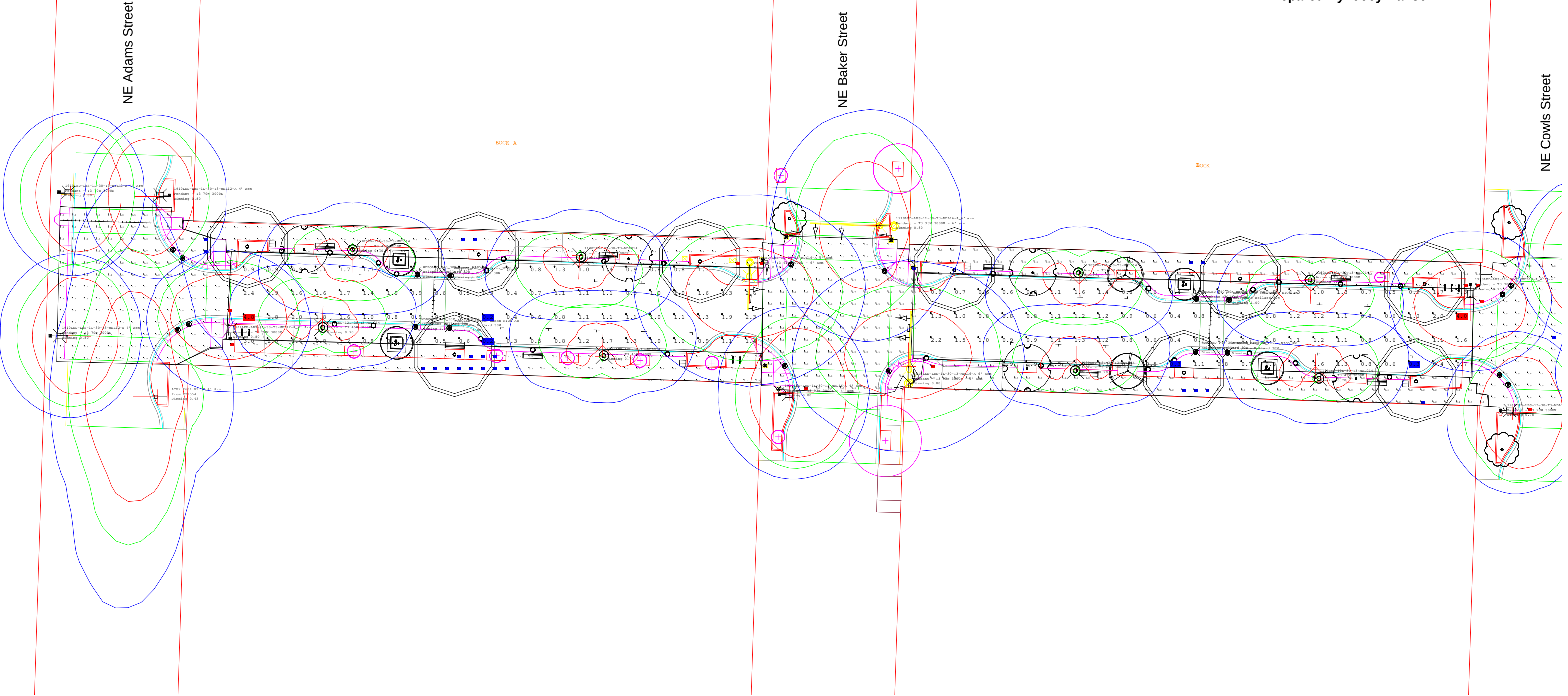
NOTES:

1. Max Input Amps is the highest of starting, operating, or open circuit currents
2. Lumen values for LED Modules vary according to the distribution type
3. System Watts includes the source watts and all driver components.
4. Fuse value should be sufficient to protect all wiring components. For electronic driver and LED component protection, use 10KV - 20KV surge suppressors.
5. L70(10K) - TM-21 6x rule applied
L70(10K) - Calculated = 244,000 @ 700mA

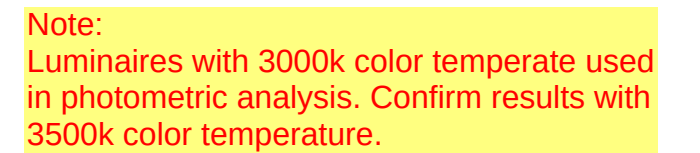
WARNING: All fixtures must be installed in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.

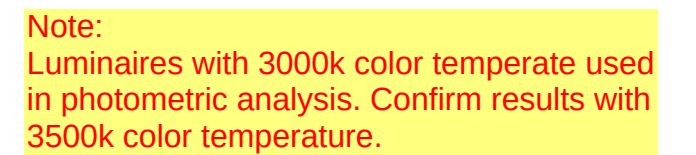


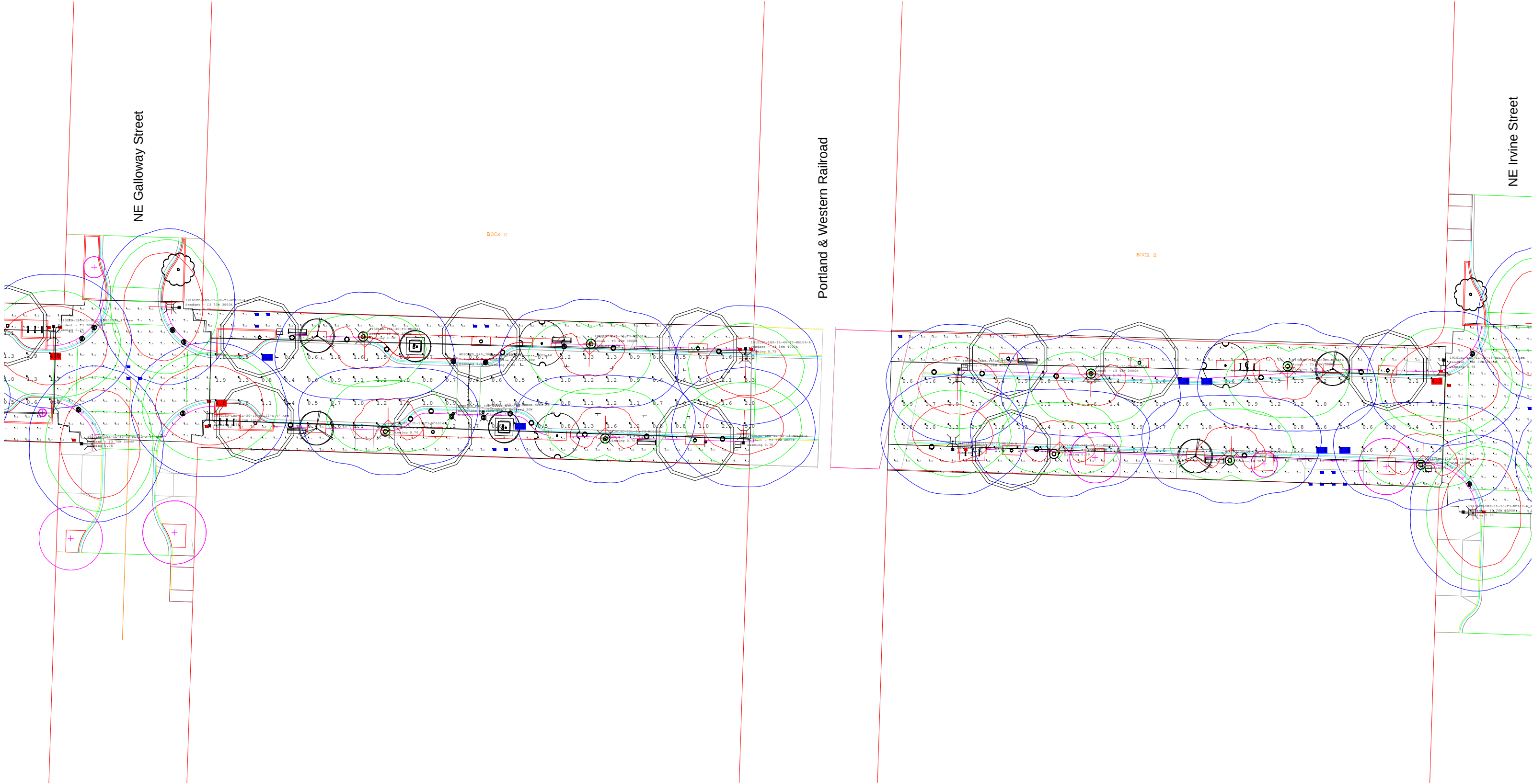
Appendix D: Photometric Analysis Output Sheets



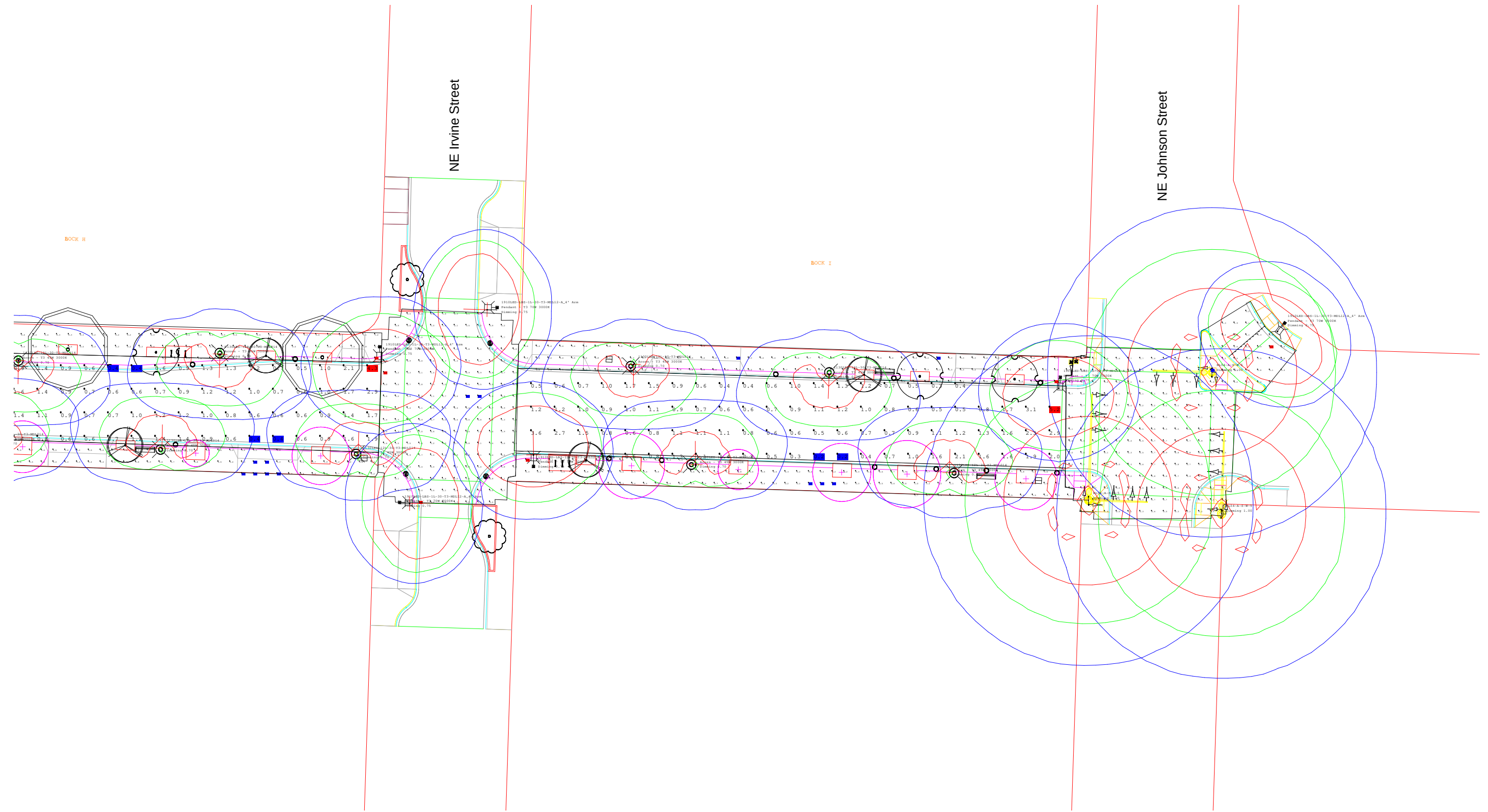
Note:
Luminaires with 3000k color temperate used
in photometric analysis. Confirm results with
3500k color temperature.







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