

**Helio M40-P1/K8 & M50-P1/K12 Security Bollards** offer robust protection for public spaces of all kinds. Simply elegant in stainless steel, fixtures 11.5" in diameter have an embedded security core and are available in illuminated and non-illuminated designs. Illuminated bollards feature a frosted acrylic lens, 180° or 360° light distribution, and Cree® LEDs in 3000K warm white and 4000K neutral white. Helio Bollards with 3000K LEDs are approved by the International DarkSky Association to minimize light pollution. For expanded performance, the Helio Family also includes security bollards in other sizes and security ratings, all in illuminated and non-illuminated designs.

## MATERIAL & CONSTRUCTION DETAILS

## INSTALLATION & MAINTENANCE

CONFIGURATIONS	LED LAMPS & DRIVER	INSTALLATION
<ul style="list-style-type: none"> <li>Series 1200 Bollard dimensions are 40" high x 11.5" diameter.</li> <li>Illuminated security bollards are available with 180° and 360° light distribution options.</li> <li>Non-illuminated Series 1200 Helio Security Bollards are available.</li> <li>Series 1200 Helio Bollards without security cores are also available in illuminated or non-illuminated versions.</li> </ul>	<ul style="list-style-type: none"> <li>Custom LED light engine with Cree® LEDs.</li> <li>3000K warm white and 4000K neutral white color temperatures.</li> <li>Less than 5% upward lumen output.</li> <li>LED driver input voltage is 120-277VAC, -30°C minimum starting temperature.</li> <li>Driver has reverse-phase, forward-phase, and 0-10V dimming capabilities.</li> <li>LED driver certifications include: IP64 enclosure and Class 2 rated output (UL8750).</li> </ul>	<ul style="list-style-type: none"> <li>Security bollards have embedded security cores and can use either of two mounting styles: deep set or shallow mount.</li> <li>Non-security bollards are surface mounted with J-bolts.</li> <li>Installation of a surge protector as part of each unit's wiring is recommended.</li> <li>Stainless steel mounting hardware sold separately. Templates are available upon request.</li> <li>See pages 2-5 for more information.</li> <li>Refer to installation instructions and foundation details for security rating requirements.</li> </ul>
MATERIALS & FINISHES		MAINTENANCE
<ul style="list-style-type: none"> <li>Illuminated bollards have a tubular stainless steel column, frosted acrylic lens, and a stainless steel head cap.</li> <li>Non-illuminated bollards are tubular stainless steel with welded stainless steel cap.</li> <li>Stainless steel is standard with a Satin finish and Ceramiloc treatment. See below for details.</li> <li>For optional powdercoat colors see the Forms+Surfaces Powdercoat Chart. Custom RAL colors are available for an upcharge.</li> </ul>		<ul style="list-style-type: none"> <li>Metal surfaces can be cleaned as needed using a soft cloth or brush with warm water and a mild detergent. Avoid abrasive cleaners.</li> </ul>

## CERAMILOC TREATMENT

Ceramiloc is an invisible surface treatment that offers significantly enhanced protection from weather and graffiti and increases the maintenance ease of stainless steel. Ceramiloc combines ceramic durability with an unparalleled ability to lock out water spots, fingerprints, graffiti and more. Patented technology bonds nano-silica particles to the surface of the stainless steel. The treatment minimally alters the surface appearance of the stainless and offers numerous benefits:

- Easily Cleaned:** The Ceramiloc treatment creates a surface that simultaneously resists fingerprints and is easy to clean. Water spots, grease marks and more can be quickly wiped away. It also creates an "anti-graffiti" surface – even permanent marker is easily removed with a clean microfiber towel and water.
- Durable:** Ceramiloc-treated materials are abrasion- and scratch-resistant. The treatment is permanent, UV stable, and will not degrade or discolor over time.
- Environmentally Sound:** The Ceramiloc treatment is a no-VOC, water-based process. Because Ceramiloc surfaces are so easily maintained, cleaning solutions and maintenance are kept to a minimum.

## LIGHT ENGINE DESCRIPTION

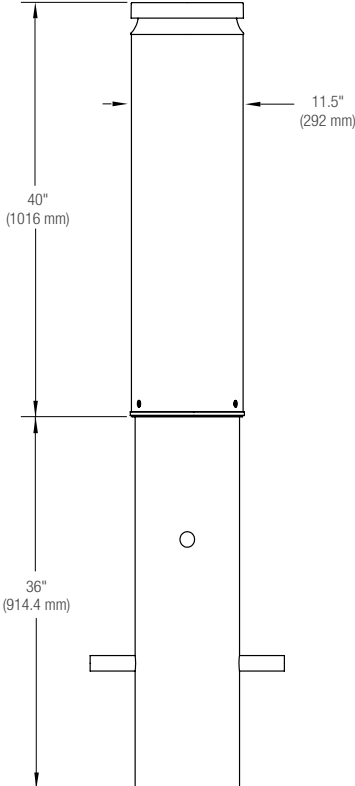
LED ENGINE	LIGHT DISTRIBUTION	DESCRIPTION	LUMINAIRE LUMENS*	B.U.G. RATING	STARTING TEMPERATURE °C
3000K LED	360°	50W LED driver	700	B0-U1-G0	-30
4000K LED	360°	50W LED driver	700	B0-U1-G0	-30
3000K LED	180°	30W LED driver	260	B0-U1-G0	-30
4000K LED	180°	30W LED driver	260	B0-U1-G0	-30

\*Luminaire lumens represent the absolute photometry for the luminaire, and indicates the lumens out of the entire fixture.

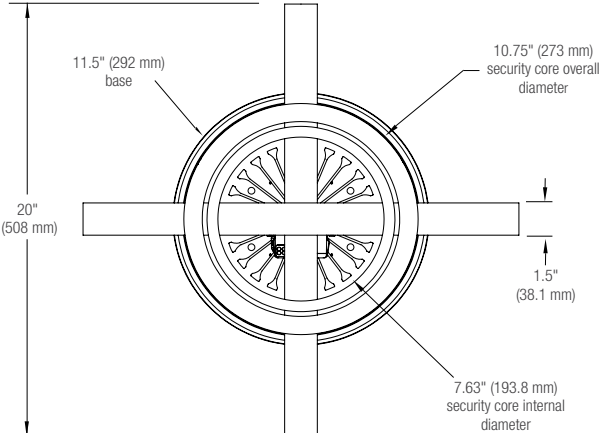
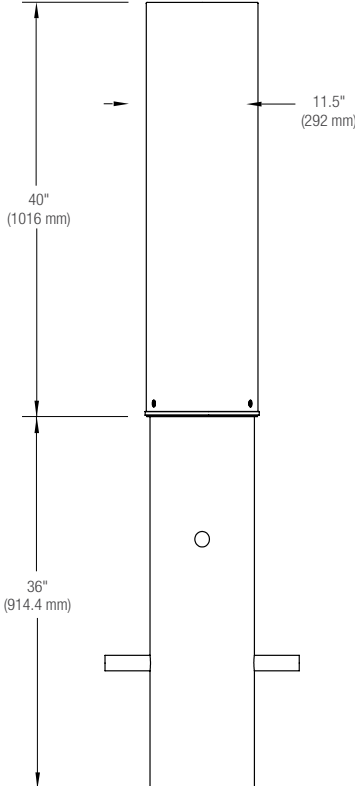
**NOTE:** Polar candela and isofootcandle plots can be found on the Helio M40-P1/K8 & M50-P1/K12 Security Bollard, Series 1200 product page on our website.

DEEP SET EMBEDDED M40-P1/K8 SECURITY CORE

ILLUMINATED BOLLARD

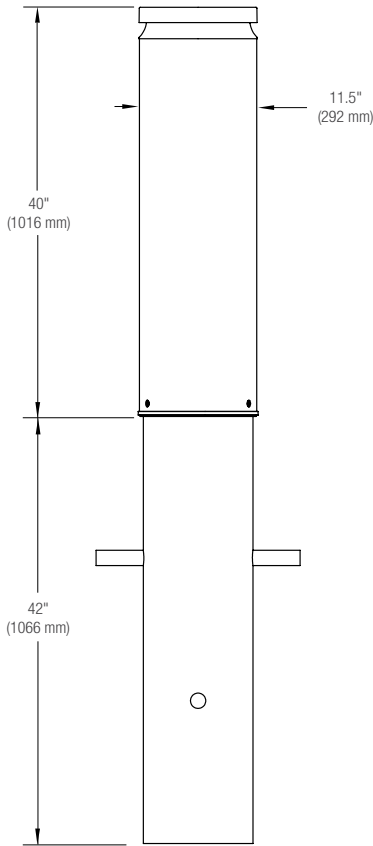


NON-ILLUMINATED BOLLARD

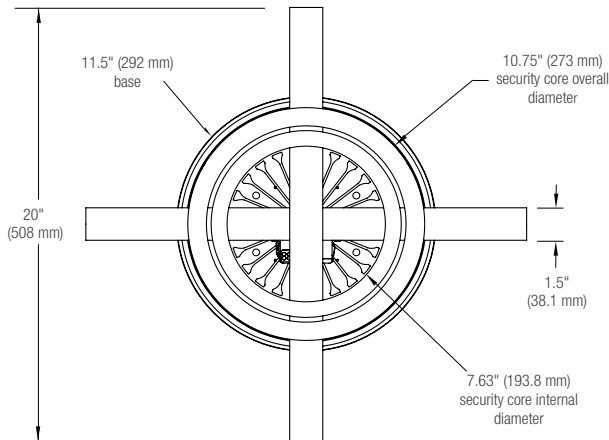
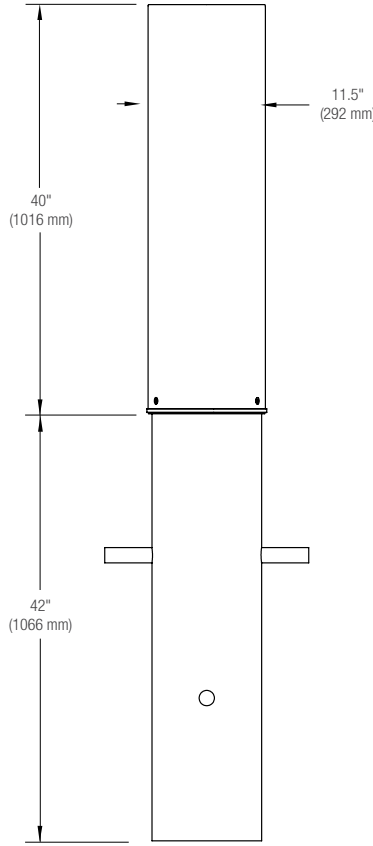


DEEP SET EMBEDDED M50-P1/K12 SECURITY CORE

ILLUMINATED BOLLARD

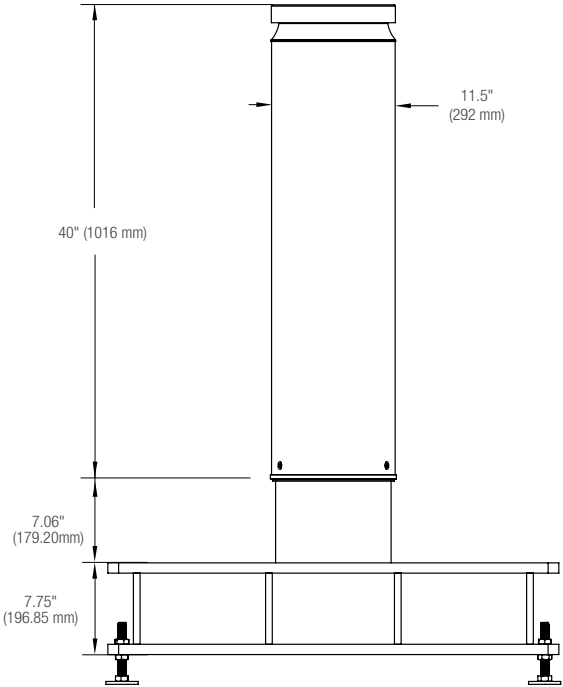


NON-ILLUMINATED BOLLARD

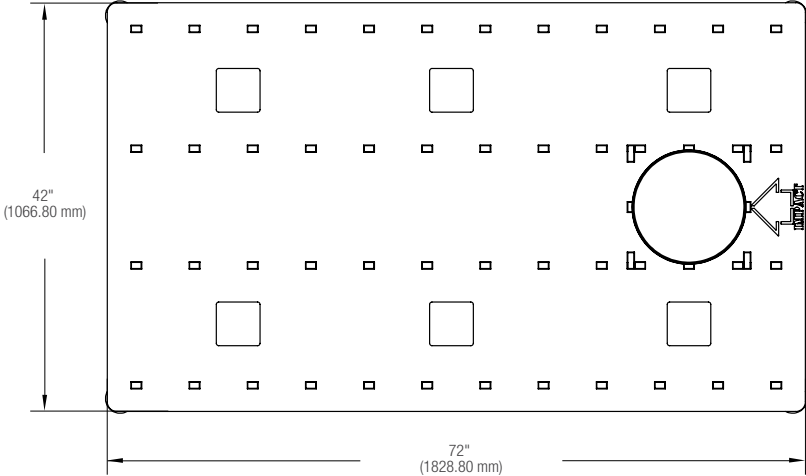
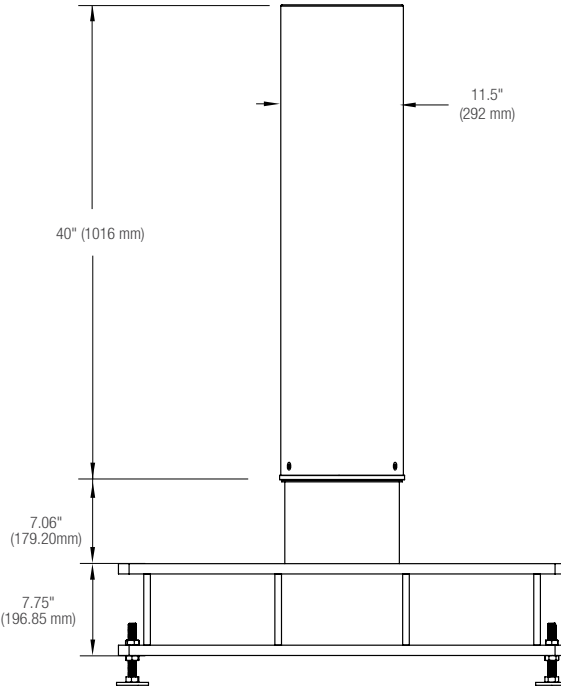


SHALLOW MOUNT EMBEDDED M50-P1/K12 SECURITY CORE

ILLUMINATED BOLLARD

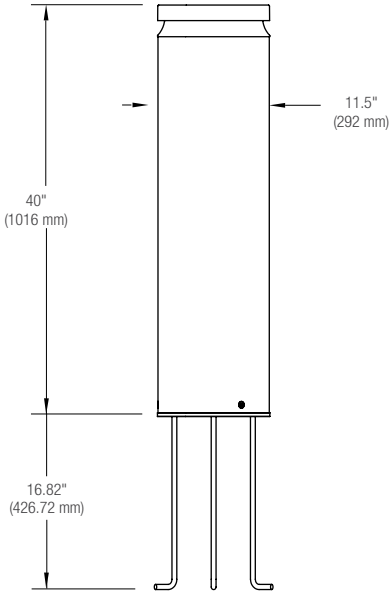


NON-ILLUMINATED BOLLARD

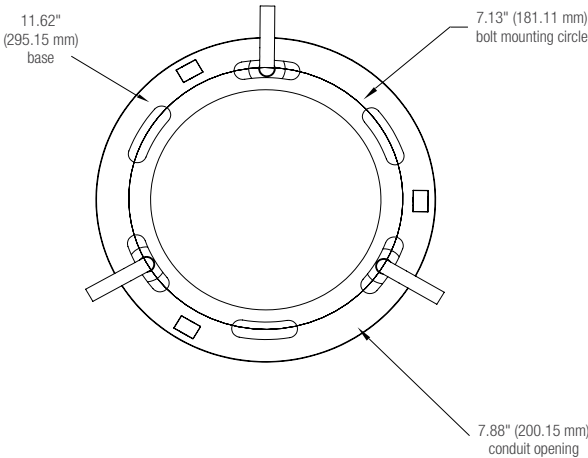
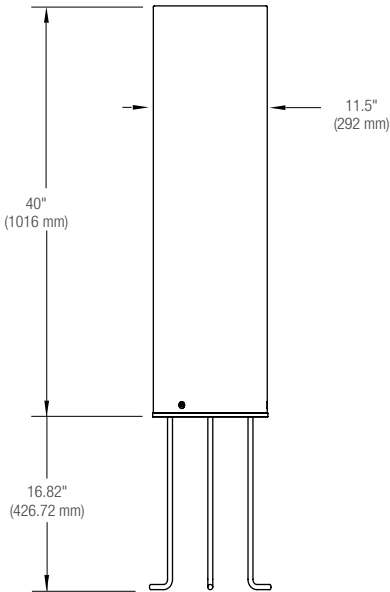


SURFACE MOUNT WITH J-BOLTS (NON-SECURITY)

ILLUMINATED BOLLARD



NON-ILLUMINATED BOLLARD



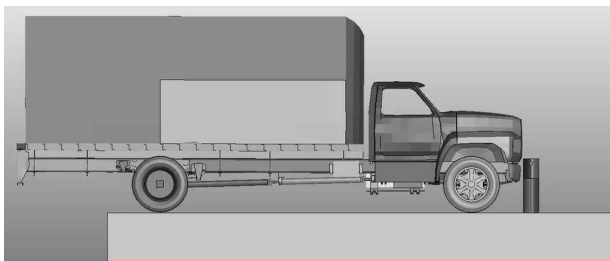
## M40-P1/K8 AND M50-P1/K12 SECURITY CORE

Site security is a major concern in today's unpredictable world. Public and private buildings, government facilities, campuses and public parks are all susceptible to accidental, as well as deliberate, vehicle infringement. Design professionals, city planners, facilities managers and engineers must now be increasingly sensitive to the safety and security requirements of public and private spaces. Security bollards placed at ingress points are an excellent way to guard against vehicle infringement while allowing pedestrian access.

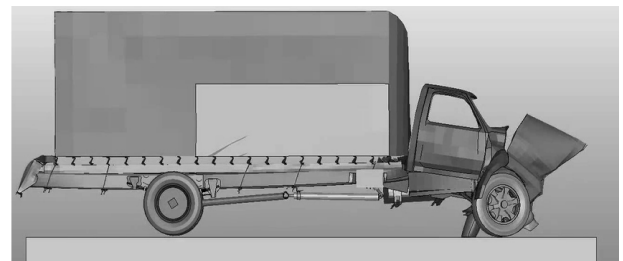
Most security bollards have taken the form of generic pipes and cylinders that offered little in the way of design or lighting functionality. Forms+Surfaces' Helio M40-P1/K8 and M50-P1/K12 Security Bollards bring pre-engineered and fully-tested security cores to our Helio line to offer beautiful and efficient lighting bollards that also meet the stringent high-impact crash requirements normally attained only with unattractive pipe barriers.

Forms+Surfaces' security bollards have been tested using a Finite Element Analysis (FEA) by a professional engineering consultant. FEA is a software-based tool commonly used in the automotive industry and used extensively for crash test simulations. All of our bollards with the security solution option were tested and passed a very demanding set of impact criteria. Tests were performed using a bollard set in permanent concrete footings and struck by a vehicle at a 90-degree impact. The impact simulation found the bollards to be successful in stopping a 15,000 lb. vehicle traveling at a minimum test velocity of 40 (M40) or 50 (M50) mph in less than 3.3 feet (1 meter).

Please contact us to discuss design and installation considerations for Helio bollards with security cores.



Crash scenario with 15,000 lb pickup truck approaching M50 embedded bollard system at 50 mph



Full-scale crash immediately after impact

## CERTIFICATION

- ETL and C-ETL listed for wet locations.
- Helio Bollard 3000K is International DarkSky Approved



## ENVIRONMENTAL CONSIDERATIONS

- Please refer to the Helio M40-P1/K8 & M50-P1/K12 Security Bollard, Series 1200 Environmental Data Sheets for detailed environmental impact information.
- Metal components have a long life cycle and are 100% recyclable.
- Standard powdercoat finishes are no-VOC; non-standard powdercoat finishes are no- or low-VOC, depending on color.
- Low maintenance.

## MODEL NUMBERS AND DESCRIPTIONS

MODEL	DESCRIPTION
LBHLO-1203-M40	Helio M40/K8 Security Bollard, Series 1200, illuminated
LBHLO-1203-M50	Helio M50/K12 Security Bollard, Series 1200, illuminated
LBHLO-1203-NM40	Helio M40/K8 Security Bollard, Series 1200, non-illuminated
LBHLO-1203-NM50	Helio M50/K12 Security Bollard, Series 1200, non-illuminated
LBHLO-1203	Helio Bollard, Series 1200, illuminated (non-security)
LBHLO-1203-N	Helio Bollard, Series 1200, non-illuminated (non-security)

**PRODUCT OPTIONS**

The following options are available for an upcharge

Add powdercoat color from Forms+Surfaces Powdercoat Chart	Custom RAL powdercoat color
Add stainless steel mounting hardware	

**LEAD TIME:** 6 to 8 weeks. Shorter lead times may be available upon request. Please contact us to discuss your specific timing requirements.

**PRICING:** Please contact us at **800.451.0410** or **sales@forms-surfaces.com**. At Forms+Surfaces, we design, manufacture and sell our products directly to you. Our sales team is available to assist you with questions about our products, requests for quotes, and orders. Territory Managers are located worldwide to assist with the front-end specification and quoting process, and our in-house Project Sales Coordinators follow your project through from the time you place an order to shipment.

**TO ORDER SPECIFY:** Quantity, model, finish, LED color temperature, light distribution, and mounting. Design Guides are available on our website to lead you through the specification process in a simple checkbox format.