

25. Site Lighting

Street Lighting

In conformance with Section 10 of the Technical Manual, the Commercial Street District fixture (in dark green @ 18'-4" ht.) is required on Thames Street. Both light fixtures and pole shall be to City Standards.

Internal Lighting

A portion of the internal drop-off loop adjacent to this project is proposed to be illuminated with light bollards. The bollards will provide a 360 degree, low intensity level of illumination. Some light may spillover the internal property line onto the adjacent lot(s) but that should not be an issue as that lot will share the driveway and loop and will be lit in the future with the same light bollard to match. See attached cut sheet of the Light Column Bollard by Forms+Surfaces and enclosed Photometric Plan.

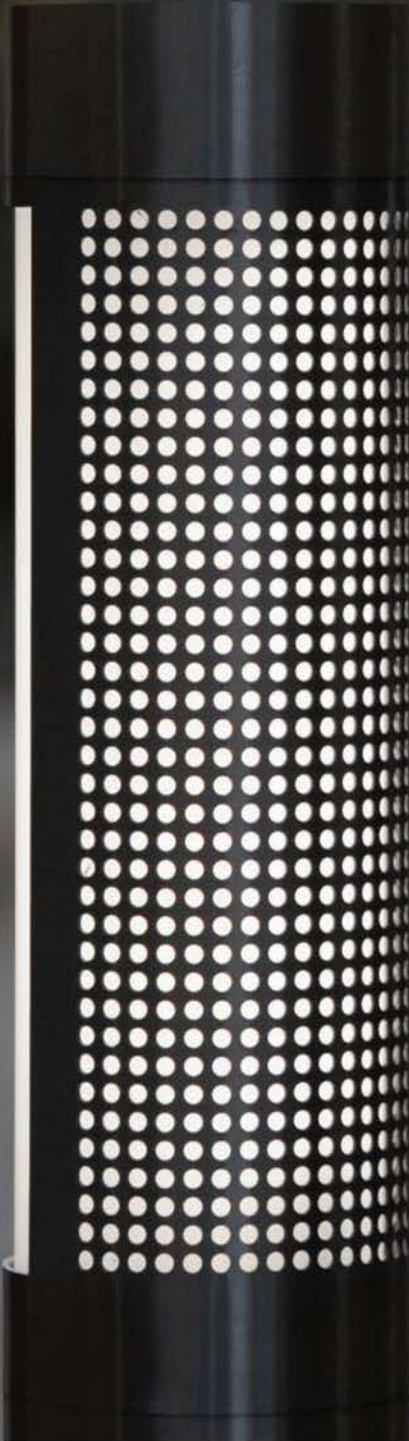
Building Lighting

At this point in the building design process it is too early to engage a lighting designer as there are just too many moving parts. As the construction management company works through the building's design development a lighting designer will be retained to work through the lighting. We are requesting that the exterior building mounted lighting be made a Condition of Approval to be worked out with Staff.



LIGHT COLUMN BOLLARD

PRODUCT DATA





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Sleek in stainless steel, the **Light Column Bollard** integrates into a wide range of settings and offers numerous design possibilities. Bollard columns are available in 5" or 6" diameters. Illumination options include LED or linear fluorescent lamps and multiple ways to direct light: no shield for symmetrical lighting, or 180° and 360° shields in standard or custom designs. Non-illuminated and security core variations, and matching Light Column Pathway Bollards and Light Column Pedestrian Lighting make it easy to create a cohesive look across functionalities.

MATERIAL & CONSTRUCTION DETAILS

CONFIGURATIONS	MATERIALS & FINISHES	FLUORESCENT LAMPS & BALLASTS
<ul style="list-style-type: none"> Light Column Bollards are available in two sizes. Series 500 columns use 5" (127 mm) diameter tubular stainless steel; Series 600 columns use 6" (152 mm) diameter tubular stainless steel. To complement the illuminated bollard, a non-illuminated version is also available in both Series 500 and Series 600. Bollards can be specified with a removable base. Weather resistant GFCI outlet for maintenance access is available for Series 600, illuminated, non-security bollards. See drawings on our website for details. Door for optional GFCI outlet is accessed using a flathead screwdriver. 	<ul style="list-style-type: none"> Illuminated bollards have a tubular stainless steel column, white-frosted acrylic lens, and a stainless steel head cap. Non-illuminated bollards are tubular stainless steel with welded stainless steel cap. Standard stainless steel finish is Satin. For optional powdercoat colors see the Forms+Surfaces Powdercoat Chart. Custom RAL colors are available for an upcharge. 	<ul style="list-style-type: none"> Linear fluorescent lamps are available in two options. See lamp information on page 5. Ballast is an electronic, thermally protected, 120/277V combination for two F14T5 lamps, -18°C starting temperature, <10% THD, Class A sound rating. Please call for HO ballast specifications.
WEIGHT	SHIELD OPTIONS	LED LAMPS & DRIVERS
<ul style="list-style-type: none"> Series 500, illuminated: 30 lbs (14 kg); non-illuminated: 32-33 lbs (15 kg) Series 600, illuminated: 34 lbs (15 kg); non-illuminated: 34-39 lbs (15-18 kg) Series 600, security core, illuminated: 170 lbs (77 kg); non-illuminated: 177 lbs (80 kg) 	<ul style="list-style-type: none"> Four standard shield designs are available for an upcharge. Refer to pages 4 and 5 for details. Custom shield designs with either 180° or 360° coverage are also available. Shields are offered for Series 500 and Series 600 illuminated bollards. 	<ul style="list-style-type: none"> Custom LED light engine with Cree® LEDs. Features advanced LED technology with 17W, 3000K warm white and 4000K natural white LEDs. LED driver input power is 100-277V. Driver has 0-10V dimming capabilities. LED driver certifications include: IP66 (waterproof) enclosure, and Class 2 rated output (UL8750)

INSTALLATION & MAINTENANCE

INSTALLATION	MAINTENANCE
<ul style="list-style-type: none"> Standard mounting is surface mount with J-bolts. 1/2" thick stainless steel base plate is slotted for rotational capability. Security bollards use an embedded security core, available with the Series 600, for an upcharge. Bollards have the option of a removable base. Installation of a surge protector as part of each unit's wiring is recommended. Stainless steel hardware is included for all mounting options. Templates are available upon request. 	<ul style="list-style-type: none"> Metal surfaces can be cleaned as needed using a soft cloth or brush with warm water and a mild detergent. Avoid abrasive cleaners.



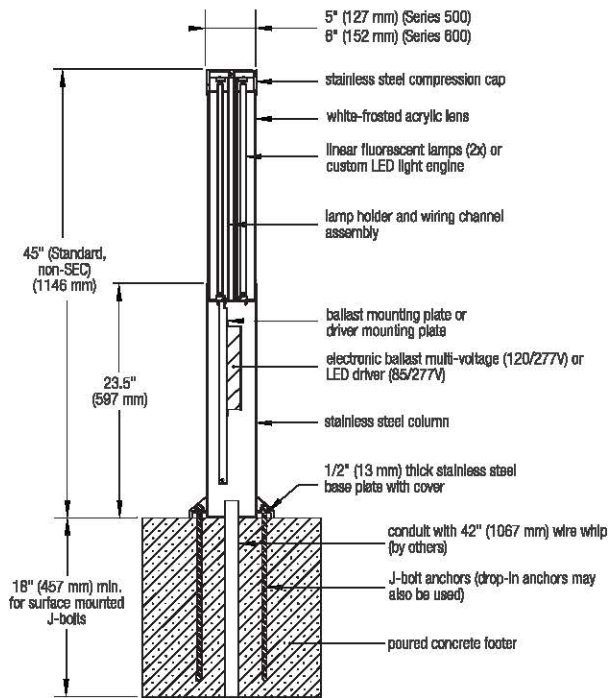
LIGHT COLUMN BOLLARD

PRODUCT DATA

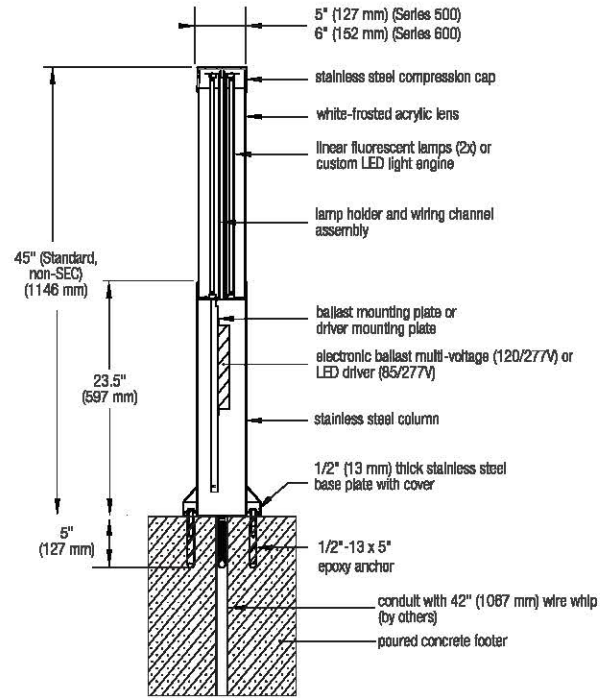
ILLUMINATED BOLLARDS

NOMINAL DIMENSIONS

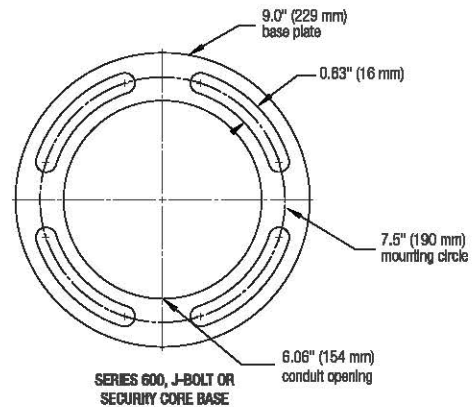
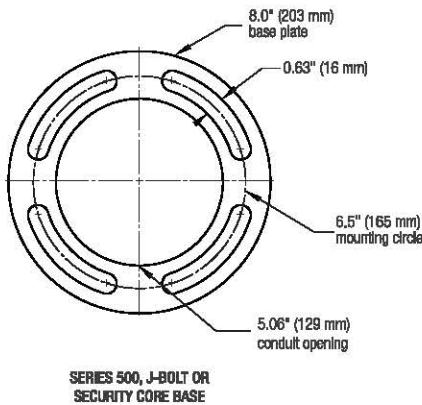
SURFACE MOUNT WITH J-BOLTS



SURFACE MOUNT WITH REMOVABLE BASE



BASE PLATE MOUNTING DETAILS





LIGHT COLUMN BOLLARD

PRODUCT DATA

CERTIFICATIONS

- UL and C-UL listed for wet locations (linear fluorescent).
- ETL and C-ETL listed for wet locations (LED).

ENVIRONMENTAL CONSIDERATIONS

- Please refer to the Light Column Bollard Environmental Data Sheets for detailed environmental impact information.
- Light Column Bollard has high recycled content and is highly recyclable.
- Powdercoat finishes are no- or low-VOC, depending on color.
- Low maintenance.

NET PRICING AND ORDERING INFORMATION (pricing does not include freight)

MODEL	DESCRIPTION	NET PRICE (US \$)
LBLCO-504	Light Column Bollard, Series 500, illuminated	please call for pricing
LBLCO-604	Light Column Bollard, Series 600, illuminated	please call for pricing
LBLCO-504-N	Light Column Bollard, Series 500, non-illuminated	please call for pricing
LBLCO-604-N	Light Column Bollard, Series 600, non-illuminated	please call for pricing
	Optional embedded security core (available for Series 600)	please call for pricing
	Optional removable base	please call for pricing
	180° perforated shield in standard designs	please call for pricing
	360° perforated shield in standard designs	please call for pricing
	180° custom shield (customer-supplied artwork)	please call for pricing
	360° custom shield (customer-supplied artwork)	please call for pricing
	Optional GFCI outlet (available for Series 600, illuminated, non-security bollards)	please call for pricing
	Optional Premium Texture from Forms+Surfaces Powdercoat Chart	+ \$200 per color/per order
	Custom RAL powdercoat color	please call for pricing
	Custom fixture height	please call for pricing

TO ORDER SPECIFY: quantity, model, finish, lamp, shield (if applicable), and mounting.

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

PROJECT NAME: _____

DATE: _____

JOB LOCATION: _____

COMPANY: _____

PLEASE USE ADOBE READER OR ADOBE ACROBAT TO FILL OUT AND SAVE FORM. USING OTHER PROGRAMS COULD RESULT IN UNSAVED DATA.

MODEL

QUANTITY	MODEL	
_____	LBLCO-504	Light Column Bollard, Series 500 - 5" diameter column, illuminated
_____	LBLCO-604	Light Column Bollard, Series 600 - 6" diameter column, illuminated
_____	LBLCO-504-N	Light Column Bollard, Series 500 - 5" diameter column, non-illuminated
_____	LBLCO-604-N	Light Column Bollard, Series 600 - 6" diameter column, non-illuminated

OPTIONS

FIG. 1 LIGHT COLUMN BOLLARD

(180° perforated shield shown - pattern not shown for clarity)

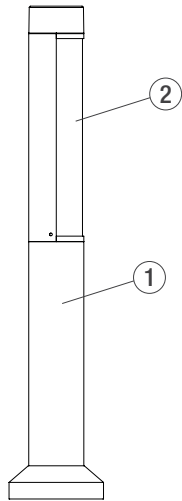
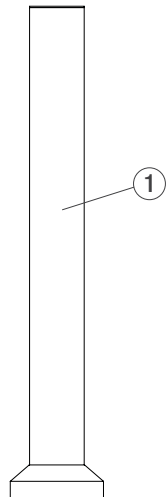


FIG. 2 LIGHT COLUMN BOLLARD

(non-illuminated bollard shown)



①

Finish Options

Please select **one** option below.

Standard Stainless Steel Finish

Satin

Standard Texture/Gloss from Forms+Surfaces Powdercoat Chart

(Please call for pricing information)

- | | |
|--|---|
| <input type="checkbox"/> Aluminum Texture | <input type="checkbox"/> Evergreen Texture |
| <input type="checkbox"/> Argento Texture | <input type="checkbox"/> Fog Gloss |
| <input type="checkbox"/> Black Gloss | <input type="checkbox"/> Silver Texture |
| <input type="checkbox"/> Black Texture | <input type="checkbox"/> Slate Gloss |
| <input type="checkbox"/> Bright Silver Gloss | <input type="checkbox"/> Slate Texture |
| <input type="checkbox"/> Cobalt Texture | <input type="checkbox"/> Taupe Grey Texture |
| <input type="checkbox"/> Cream Texture | <input type="checkbox"/> White Texture |
| <input type="checkbox"/> Evergreen Gloss | |

Premium Texture from Forms+Surfaces Powdercoat Chart

(Please call for pricing information)

- | | |
|--|---|
| <input type="checkbox"/> Azure Texture | <input type="checkbox"/> Seafoam Texture |
| <input type="checkbox"/> Lime Texture | <input type="checkbox"/> Weathered Iron Texture |
| <input type="checkbox"/> Rust Texture | |

Custom RAL Powdercoat Color

(Please call for pricing information)

RAL Color: _____

②

Shield and Pattern Options (for illuminated bollards)

Please select **one** option below. Please call for pricing information.

- | | | |
|---|---|---|
| <input type="checkbox"/> No shield | <input type="checkbox"/> 180° shield with Bubbles | <input type="checkbox"/> 360° shield with Bubbles |
| <input type="checkbox"/> 180° shield with Kente* | <input type="checkbox"/> 180° custom shield | <input type="checkbox"/> 360° custom shield |
| <input type="checkbox"/> 180° shield with Perforation | <input type="checkbox"/> 360° shield with Perforation | |
| <input type="checkbox"/> 180° shield with Scape | <input type="checkbox"/> 360° shield with Scape | |

*Kente shield is only available in Series 600, 180° configuration.

Lamp Options (for illuminated bollards)

Please select **one** option below. Please call for pricing information.

- 17W LED (17W custom LED light engine)
Please select **one** color temperature below.
 - 3000K 4000K
- (2x) F14T5 (14W T5 linear fluorescent)
- (2x) F24T5/HO (24W T5HO linear fluorescent)

Mounting Options

Please select **one** option below. Please call for pricing information.

- Surface Mount with J-bolts
- Surface Mount with Removable Base
- Embedded Security Core*

*Security core mounting is only available with Series 600.

GFCI Outlet (for Series 600 illuminated, non-security bollards)

Please select **one** option below. Please call for pricing information.

- Yes No



LIGHT COLUMN BOLLARD, SERIES 600

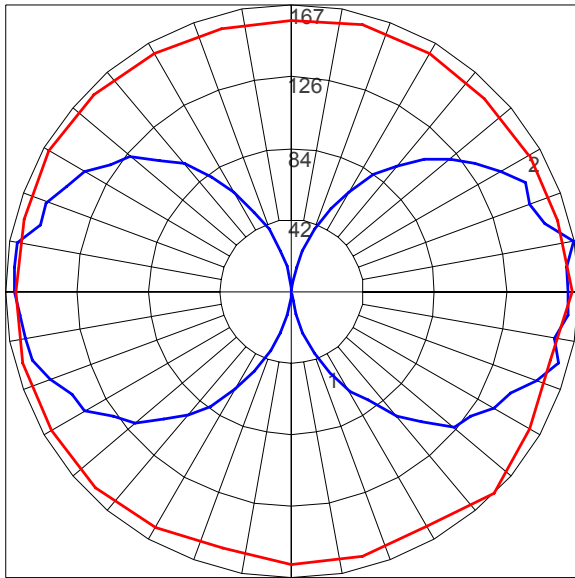
LIGHTING PLOTS

LAMP DESCRIPTIONS

LAMP	DESCRIPTION	BASE	COLOR TEMPERATURE	LUMINAIRE LUMENS*	B.U.G. RATING
3000K LED	17W custom LED light engine	N/A	3,000K	1545	B1-U4-G1
4000K LED	17W custom LED light engine	N/A	4,000K	1545	B1-U4-G1
(2) F14T5	14W T5 linear fluorescent	Mini bi-pin	4,100K	2195	B1-U4-G2
(2) F24T5/HO	24W T5HO linear fluorescent	Mini bi-pin	4,100K	3252	B1-U5-G2

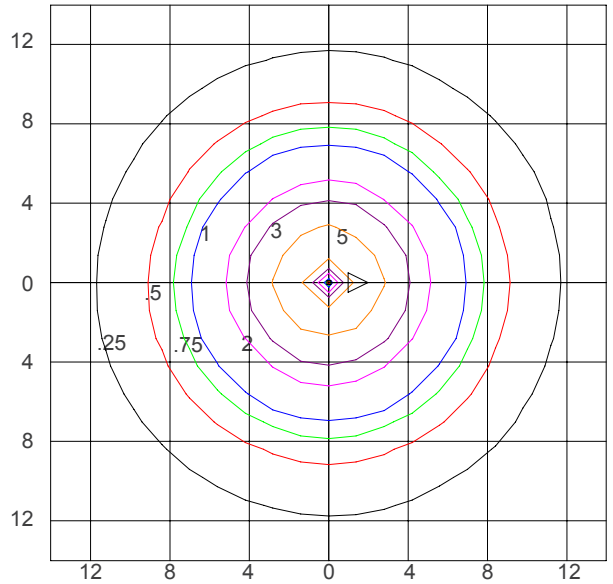
*Luminaire lumens represents the absolute photometry for the luminaire, and indicates the lumens out of the entire fixture.

POLAR CANDELA PLOT (17W LED, 3000K/4000K)



Maximum Candela = 167.44; Located at Horizontal Angle = 315; Vertical Angle = 100
 #1 - Vertical Plane Through Horizontal Angles (315 - 135) (Through Max. Cd.)
 #2 - Horizontal Cone Through Vertical Angle (100) (Through Max Cd.)

ISOFOOTCANDLE PLOT (17W LED, 3000K/4000K)



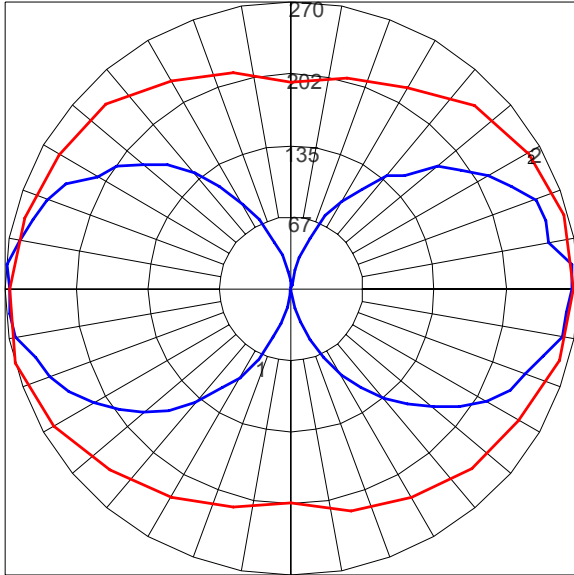
Isofootcandle Plot shows light distribution pattern at ground level with custom LED light engine with no shield. Readings have been taken assuming the photometric center of the luminaire to be 2.74 feet above ground level. IES files for standard lamps are available on our website.



LIGHT COLUMN BOLLARD, SERIES 600

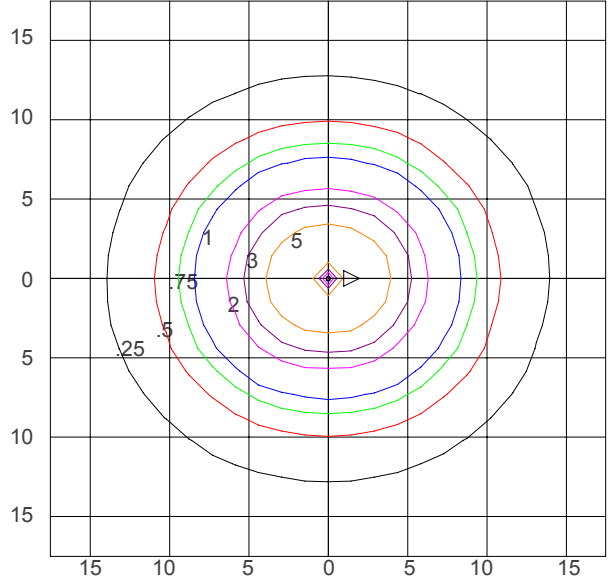
LIGHTING PLOTS

POLAR CANDELA PLOT (14W T5 LINEAR FLUORESCENT)



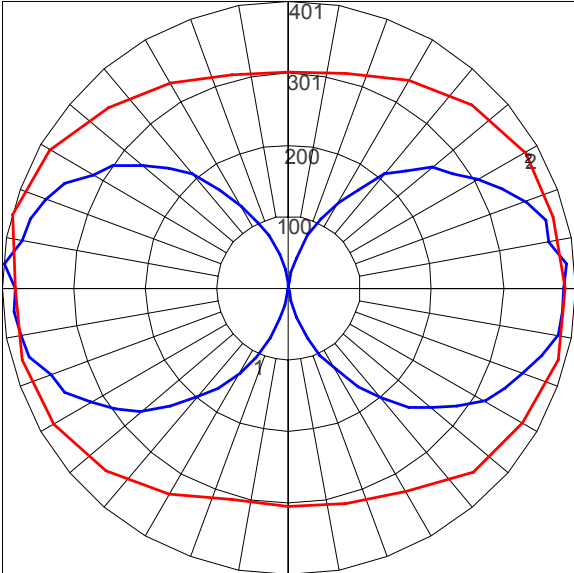
Maximum Candela = 269.98; Located at Horizontal Angle = 195; Vertical Angle = 95
#1 - Vertical Plane Through Horizontal Angles (195 - 15) (Through Max. Cd.)
#2 - Horizontal Cone Through Vertical Angle (95) (Through Max Cd.)

ISOFOOTCANDLE PLOT (14W T5 LINEAR FLUORESCENT)



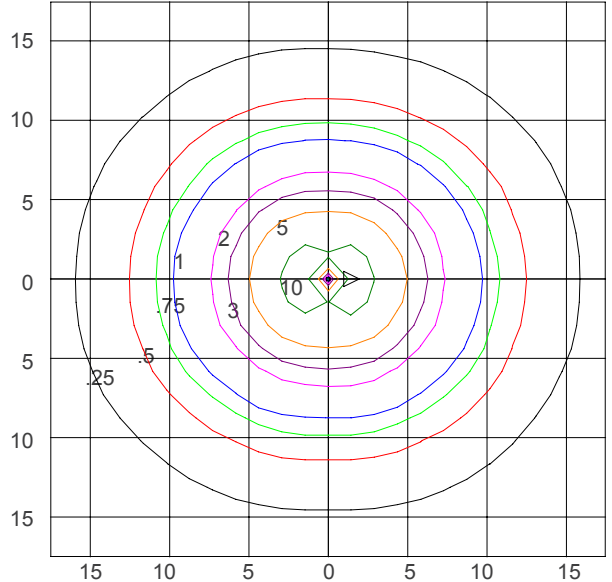
Isofootcandle Plot shows light distribution pattern at ground level with (2) 14W T5 linear fluorescent mini bi-pin base lamps with no shield. Readings have been taken assuming the photometric center of the luminaire to be 2.74 feet above ground level. IES files for standard lamps are available on our website.

POLAR CANDELA PLOT (24W T5/HO LINEAR FLUORESCENT)



Maximum Candela = 400.96; Located at Horizontal Angle = 165; Vertical Angle = 95
#1 - Vertical Plane Through Horizontal Angles (165 - 345) (Through Max. Cd.)
#2 - Horizontal Cone Through Vertical Angle (95) (Through Max Cd.)

ISOFOOTCANDLE PLOT (24W T5/HO LINEAR FLUORESCENT)



Isofootcandle Plot shows light distribution pattern at ground level with (2) 24W T5/HO linear fluorescent mini bi-pin base lamps with no shield. Readings have been taken assuming the photometric center of the luminaire to be 2.74 feet above ground level. IES files for standard lamps are available on our website.

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