

# FORTACAST® Drive-Over Inground Lighting

ORGANIC LIGHTING®

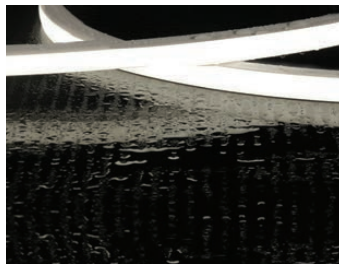
US PATENT #11,644,163B2 | INTERNATIONAL PATENTS PENDING



Overcoming high installation cost and functional limitations of drive-over lighting is now easy with the FortaCast® inground polymer concrete lighting system. FortaCast® structural self-supporting fixtures with their replaceable slide-in lighting, can be installed in roadways, paths, softscape and stonework with the ease of installing pavers. Fixtures lock together to form continuous diffused illuminated straight and curved lines that can intersect seamlessly. Designs are limited only by your imagination. FortaCast® contains Organic Lighting's Aqueon® submersible diffused IP68 LED strips that are flood and typhoon proof with up to a 60,000-hour lifetime.

## AQUEON® LED Inside

- UL Listed 676 & 2108 - submersible / IP68
- Permanent double molded connections.
- Low Energy -RGB - 1.83W/ft(6W/m)  
RGBW-2.74W/ft (9W/m)
- Circuit protects each LED individually
- Perfectly diffused illumination
- Continuous runs



Vibration proof, and capable of withstanding the harshest environments. Aqueon® is a new type of flexible light. Superior standards, new materials, new methods, military grade components and advanced circuit design. Aqueon is flexible enough to slide into the FortaCast® from the beginning of the run where miniature rollers inside the channels guide the lighting strip to the end.

\* Specifications sheets are subject to change without notification.

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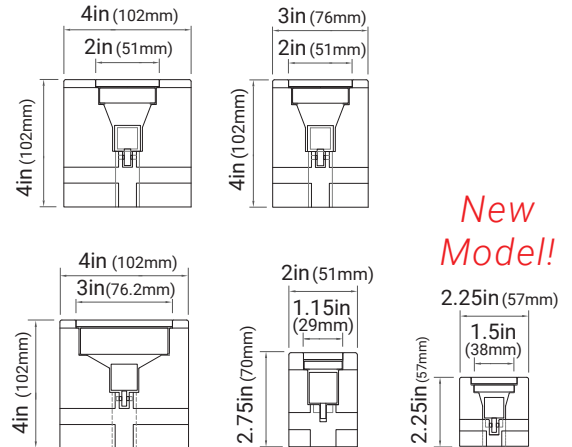
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Project

Date

## STANDARD SIZES

\*Contact for Custom Shapes & Sizes.



## PATENTED SLIDE-IN REPLACEABLE LIGHTING SYSTEM

Future proof- LED arrays of up to 49ft(15m) are maintainable and replaceable from one end of the run.

## CONSTRUCTION

Interlocking reinforced Cast Polymer concrete tested to 10,000psi, with an impact resistant anti-slip surface layer. Suitable for harsh environments. Salt water and chemical resistant.

## MOUNTING

Inground installation in continuous lines, or individual fixtures. Drive-over applications.

## COLOR TEMPERATURES

30K, 35K, 40K, 57K, Red, Blue, Green, Amber, RGB, RGBW, Tunable White; DMX programmable, Pixel controlled SPI.

## ELECTRICAL

Remote 24V drivers (Dimmable 0-10V). DMX controlled RGB or RGBW. Pixel controlled SPI.



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**PLEASE NOTE:** FORTACAST PRODUCTS ARE MADE BY HAND FROM NATURAL MATERIALS. VARIATIONS IN COLOR ARE TO BE EXPECTED. TO CONFIRM COLOR, PLEASE REFER TO ACTUAL CONCRETE SAMPLES BEFORE PLACING ORDER. SOME MINOR CHIPPING MAY RESULT FROM SHIPPING, BUT IS NOT DETRIMENTAL TO APPEARANCE OR FUNCTION.

## HANDMADE WITH RADIUSED EDGES AND DETAILED, REFINED FINISHES.

FortaCast® precast drive-over lighting fixtures are wet cast from ultra high strength polymer concrete. Handmade with radiused edges and beautiful, detailed finishes, produced by skilled artisans, who take great pride in their workmanship. The cement, sand, aggregate, and colors are naturally occurring and as such may vary slightly from batch to batch and piece to piece. These chance variations, combined with hand manufacturing, enhance the character of the precast's color, the finish, and the product overall, resulting in a timeless look which will span decades.

FortaCast® is designed to minimize time and labor costs in the field. Interlocking tabs facilitate installation, aid in creating seamless lines, or curves, and contribute to time savings.

## INSTALLATION

FortaCast® sections are set in place, connect and lock together. Numbered sections are delivered to site, ready for installation. After the first section is in place, a special sealing compound is brushed to the matching ends and the second and subsequent sections are connected. After all construction and lenses are in place, the Aqueon LED lighting is installed from one end of the run. Miniature rollers guide the LED strip to the end of the run. If choosing to stain or paint, **concrete must cure for 28 days before applying.**

Installation should be carried out by qualified paving contractors experienced in the installation of interlocking concrete pavement systems. Preferably ICPI certified. **For more information visit <https://icpi.org/guides-specifications>**

A qualified electrical contractor is required to provide 24VDC power. Power supplies must be located in a dry location or a sealed waterproof housing and cord lengths specified to reach those locations. Aqueon is a submersible lighting strip with factory made connections. Installation and field connections must be liquid tight and installation is the electrical contractor's sole responsibility.

**Installation requires coordination between the Paving Contractor and the Electrical Contractor.**



Air and vapor barrier  
supplied for connected  
joints.



Adhesion  
Promoter for  
Lens



FortaCast® installed directly on paver bedding. FortaCast® can also be installed in existing concrete or bituminous paving using standard paving techniques.

## CONCRETE COLOR OPTIONS



## CONCRETE TEXTURE OPTIONS



Blanco Smooth combination is the FortaCast® standard. Explore our 9 color options and 4 texture options to tailor to your design. Custom concrete colors are available. Sample finishes on request.

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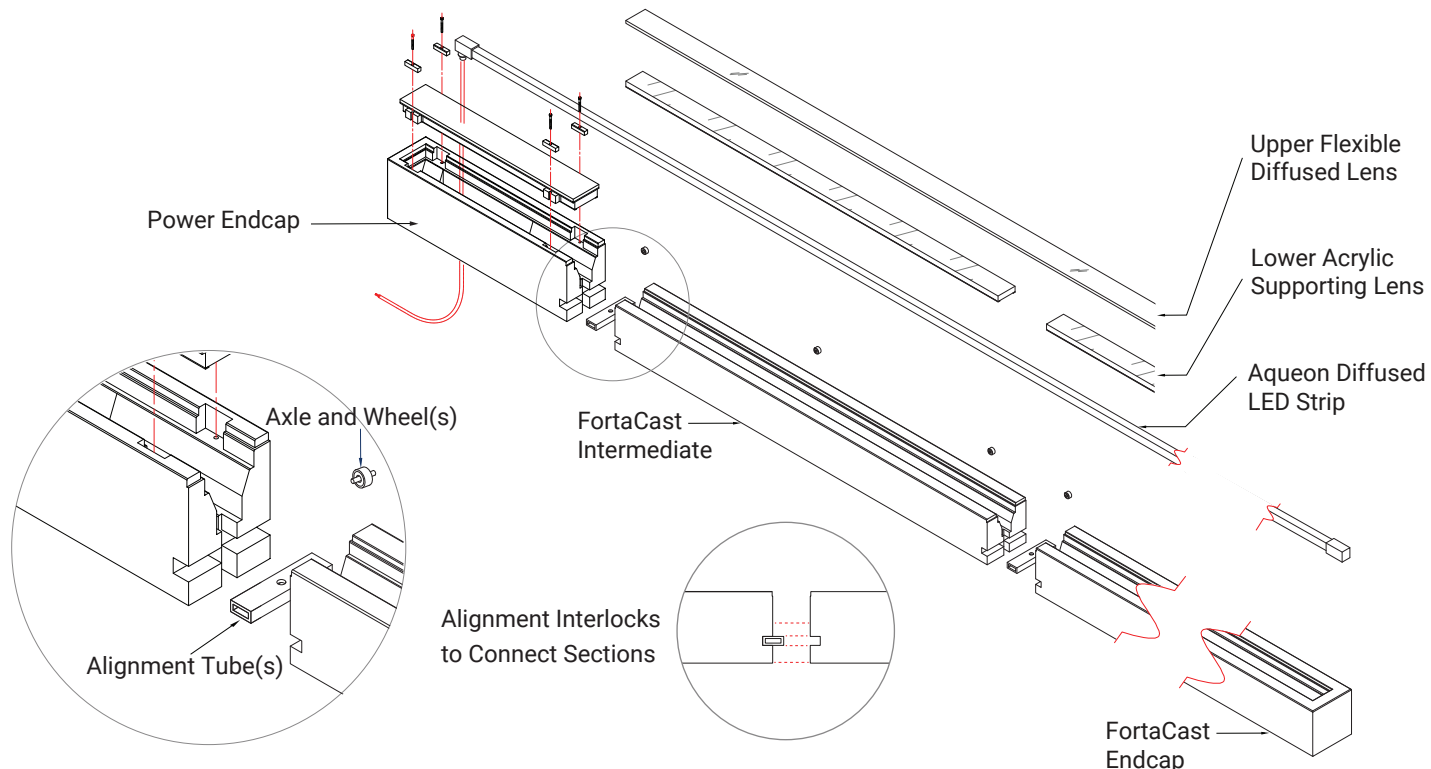
## SPECIFYING FORTACAST DRIVE-OVER LIGHTING

Provide fully dimensional plans, DWG files and detailed drawings. Proper Installation requires coordination between the Paving Contractor and the Electrical Contractor.

Project

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## FORTACAST COMPONENTS AND ASSEMBLY OVERVIEW



## STEP 1 Calculate Total Run Length - Ft & in (M &mm) - CHOOSE STYLE / SIZE / CCT /FINISH

STYLE -					
STYLE		SIZE	CCT	COLOR	TEXTURE
FS FORTACAST STRAIGHT		2x2xL 2.25"W x 2.25"H x L (57mm x 57mm x L)	M22 22K	BL BLANCO	SM SMOOTH
			M27 27K	CA CAPPUCINO	SW SANDWASH
FC FORTACAST CURVED		2x3xL 2"W x 2.75"H x L (51mm x 70mm x L)	M30 30K	LA LAREDO	SB SANDBLAST
		3x4xL 3"W x 4"H x L (76mm x 101mm x L)	M35 35K	CR CREAM	SBH SANDBLAST HEAVY
		4x4xL 4"Wx4"H x L (101 mm x 101mm x L)	M40 40K	NU NUEZ	
		CU Custom - contact factory with drawings	M57 57K	GR GRIS	
FSF FORTACAST STANDALONE		22-4 22.5"L(572mm) x 4"W(102mm)	A AMBER	C CARBON	
		49-4 49"L(1245mm) x 4"W(102mm)	RGB RGB	DU DURANGO	
FCR FORTACAST CIRCLE		24 24" Dia (622mm) x 3"W(76mm)	RGBW27 RGBW27K	MO MOCHA	
		36 36" Dia (927mm) x 3"W(76mm)	RGBW30 RGBW30K	CU CUSTOM	
		48 48" Dia (1232mm) x 3"W(76mm)	RGBW40 RGBW40K		
			TW TUNABLE WHITE		
			PTW TUNABLE WHITE PIXEL		
			PRGB RGB PIXEL		
			PRGBW27 RGBW27K PIXEL		
			PRGBW30 RGBW30K PIXEL		
			PRGBW40 RGBW40K PIXEL		

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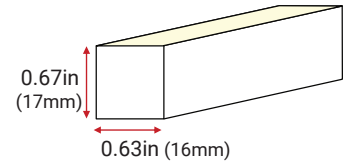
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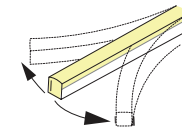
Color	CRI	Lm/ft	Lm/m	Max Length		W/ft	W/m
Aqueon Diffuse Mono							
2200K	>95	58	190	49.2ft	15m	1.83	6
2700K	>95	72	235	49.2ft	15m	1.83	6
3000K	>95	72	235	49.2ft	15m	1.83	6
3500K	>95	73	240	49.2ft	15m	1.83	6
4000K	>95	73	240	49.2ft	15m	1.83	6
5700K	>95	73	240	49.2ft	15m	1.83	6
Amber	>95	33	110	49.2ft	15m	1.83	6
Aqueon Diffuse RGB & RGBW							
RGB	>95	53	173	49.2ft	15m	1.83	6
RGBW-27K	>95	63	207	49.2ft	15m	2.74	9
RGBW-30K	>95	63	207	49.2ft	15m	2.74	9
RGBW-40K	>95	63	207	49.2ft	15m	2.74	9
Aqueon Diffuse RGB / RGBW Pixel							
RGB	>80	58	188	49.2ft	15m	2.74	9
RGBW-27K	>80	63	205	49.2ft	15m	3.66	12
RGBW-30K	>80	63	205	49.2ft	15m	3.66	12
RGBW-40K	>80	63	205	49.2ft	15m	3.66	12
Aqueon Diffuse Tunable White							
2200K-5700K	>90	112	365	49.2ft	15m	2.74	9
Aqueon Diffuse Tunable White Pixel							
2200K-5700K	>80	119	390	49.2ft	15m	3.05	10

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## Horizontal Bending Model



## STEP 2 CHOOSE YOUR POWER SUPPLY

### Power Supplies - 24V

Forward Phase, Reverse Phase, & 0-10V Dimming Drivers. Remote enclosures available.

Part #	Ingress	Voltage	Wattage	Dimensions (inches / mm)	Description
045001	IP67	100-305V	20W	7.6 x 1.18 x 0.79 / 193 x 30 x 20	Dimmable LED Driver
045002	IP67	100-305V	40W	5.83 x 1.57 x 0.87 / 148 x 40 x 22	Dimmable LED Driver
045003	IP67	120-277V	60W	6.3 x 2.24 x 1.5 / 160 x 57 x 38	Dimmable LED Driver
045004	IP67	120-277V	75W	6.3 x 2.24 x 1.5 / 160 x 57 x 38	Dimmable LED Driver
045005	IP67	120-277V	96W	7.6 x 2.24 x 1.5 / 193 x 57 x 38	Dimmable LED Driver
045006	IP67	120-277V	200W	10.1 x 3.03 x 1.8 / 257 x 77 x 46	Dimmable LED Driver
045007	IP67	120-277V	300W	11.9 x 3.03 x 1.8 / 302 x 77 x 46	Dimmable LED Driver

### 75W Dimmable Driver



### Enclosures

Part #	Ingress	Dimensions (inches / mm)	Description
045008	IP67	11.02 x 4.05 x 2.2 / 280 x 103 x 56	20W Enclosure
045009	IP67	11.02 x 4.05 x 2.2 / 280 x 103 x 56	40W Enclosure
045010	IP67	11.02 x 4.05 x 2.2 / 280 x 103 x 56	60W Enclosure
045011	IP67	11.02 x 4.05 x 2.2 / 280 x 103 x 56	75W Enclosure
045012	IP67	11.02 x 4.05 x 2.2 / 280 x 103 x 56	96W Enclosure
045013	IP67	16.7 x 9.8 x 2.3 / 424 x 249 x 58	200W Enclosure
045014	IP67	16.7 x 9.8 x 2.3 / 424 x 249 x 58	300W Enclosure
PC-JBOX	IP67	4.25 x 1.63 x 1.25 / 108 x 41 x 32	Waterproof J-Box

### 300W Dimmable Driver



## STEP 3 CHOOSE YOUR DMX CONTROLLER (color changing only)

Part #	Description
011343	100W Digital Controller
011344	180W Digital Controller
011345	720W Digital Controller
011341	Digital Controller & Power Supply Combination
011410	Nicolaude DE3 DMX 512 Controller
011403	Nicolaude DINA-DR1 DMX 512 Controller
050203	LT-200 SPI Controller - For Pixel
050205	DMX512 SPI Converter Decoder - For Pixel

### Digital Controller (100W, 180W, 720W)



### Nicolaude DE3 DMX 512 Controller



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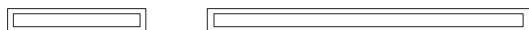
## FORTACAST APPLICATIONS

Apply FortaCast sections in limitless design possibilities. Custom lengths and radius available.

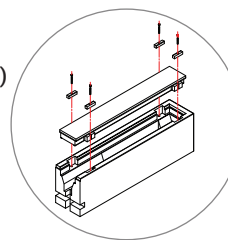
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### STANDALONE FIXTURES (Enclosed)

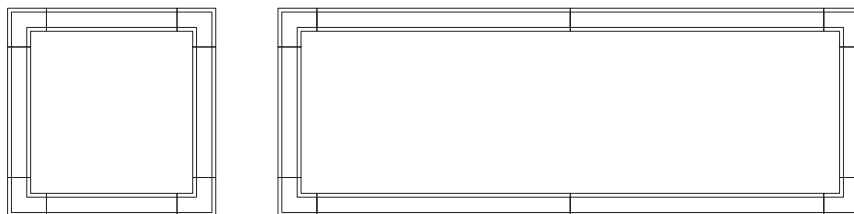


### LINES - STRAIGHT SECTIONS WITH ENDCAPS



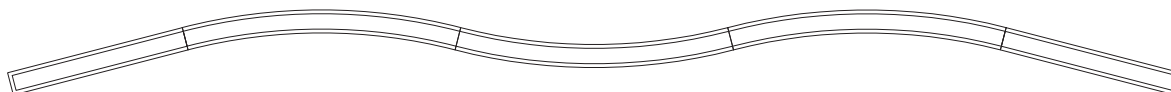
Future proof; Easy LED strip replacement without removing lenses. Simply slide out the old LED and slide in the new!

### SQUARES AND RECTANGLES - STRAIGHT SECTIONS WITH JUNCTIONS

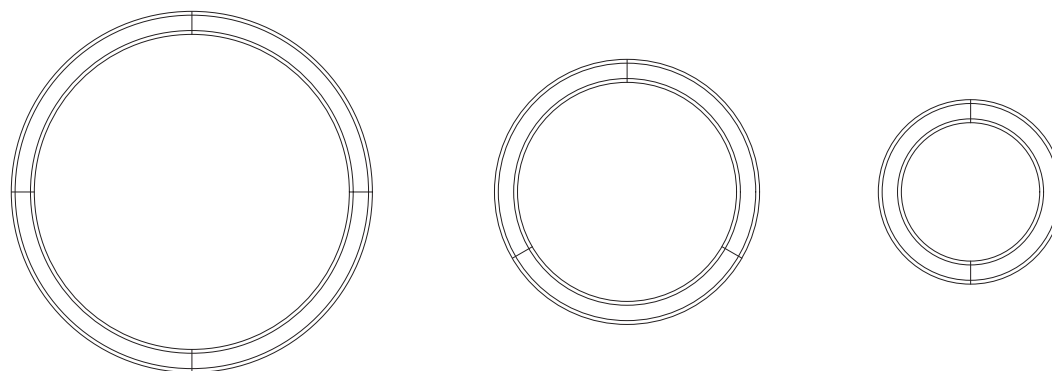


### ripples - CURVED SECTIONS WITH ENDCAPS

Standard Radii - 72in (1829mm) / 285in (7239mm)



### CIRCLES - CURVED SECTIONS



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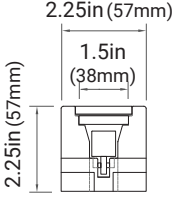
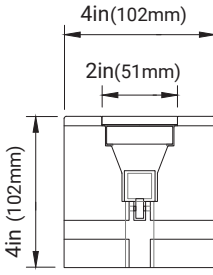
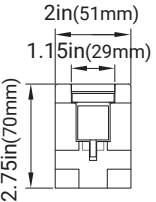
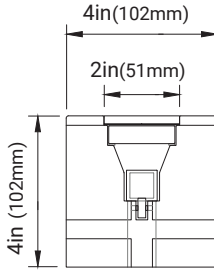
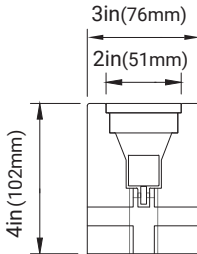
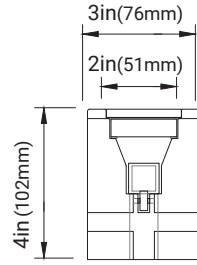
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## FORTACAST STANDARD SIZES AVAILABLE

## CUSTOM AND STANDARD CURVED MODELS AVAILABLE

W x H + Lens Width	Length	W x H + Lens Width	Length
<b>2.25" x 2.25" (1.5" Lens)</b> 57mm x 57mm (38mm Lens) 3.25 lbs/ft (1.47 kg/m)		<b>4" x 4" (2" Lens)</b> 102mm x 102mm (51mm Lens) 10.6 lbs/ft (15.77kg/m)	
 <p><b>New Model!</b></p> <p>2.25 in low profile with 1.5" lens for restricted spaces and embedding in cored out existing concrete floors.</p> <p><b>FS2X2</b> 48in(1219mm)</p>		 <p><b>FS4X4</b> 36in (914mm)</p> <p><b>F90-4</b> 14in (355.6mm) 90°</p> <p><b>FE4 End Unit</b> 14.5in (368mm)</p>	
<b>2" x 2.75" (1.15" Lens)</b> 51mm x 70mm (29mm Lens) 3.59 lbs/ft (5.34 kg/m)		<b>4" x 4" (2" Lens) - STANDALONE FIXTURES (ENCLOSED)</b> 102mm x 102mm (51mm Lens) 10.6 lbs/ft (15.77kg/m)	
 <p><b>FS2X3</b> 48in(1219mm)</p> <p><b>FS2X3</b> 40in(1016mm)</p> <p><b>FS2X3</b> 20in(508mm)</p> <p><b>FS2X3</b> 3in(76mm)</p>		 <p><b>FSF22-4</b> 22.5in (572mm)</p> <p><b>FSF49-4</b> 49in (1245mm)</p>	
<b>3" x 4" (2" Lens)</b> 76mm x 102mm (51mm Lens) 7.33 lbs/ft (10.9kg/m)		<b>STANDARD CIRCLES 2FT / 3FT / 4FT (.61M/.91M/1.22M)</b> <b>3" x 4" (2" Lens)</b> 7.33 lbs/ft (10.9kg/m) 76mm x 102mm (51mm Lens)	
 <p><b>FS3X4</b> 36in (914mm)</p> <p><b>FC3X4</b> R285.5in (R7252mm) 36.5in (927mm)</p> <p><b>FC3X4</b> R72.5in (R1842mm) 35.5in (902mm)</p> <p><b>F90-3</b> 5.05in (128mm) 90°</p> <p><b>FE3 End Unit</b> 14.5in (368mm)</p>		 <p><b>FCR-48</b> Ø48.5in (1232mm)</p> <p><b>FCR-36</b> Ø36.5in (927mm)</p> <p><b>FCR-24</b> Ø24.5in (622mm)</p>	

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