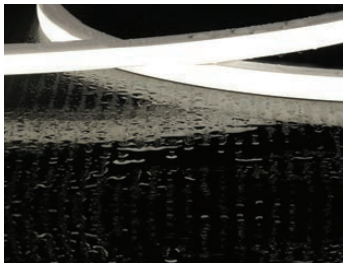
FortaCast® Drive-Over Inground Lighting

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

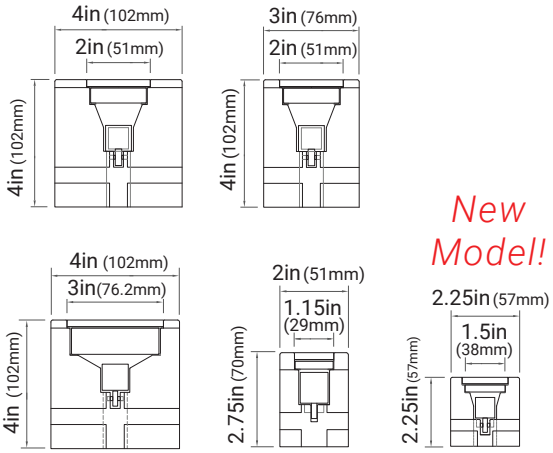
Vibration proof, and capable of withstanding the harshest environments. Aqueon® is a new type of flexible light. Superior standards, new materials, new methods, military grade components and advanced circuit design. Aqueon is flexible enough to slide into the FortaCast® from the beginning of the run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

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.

* Specifications sheets are subject to change without notification.

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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 an 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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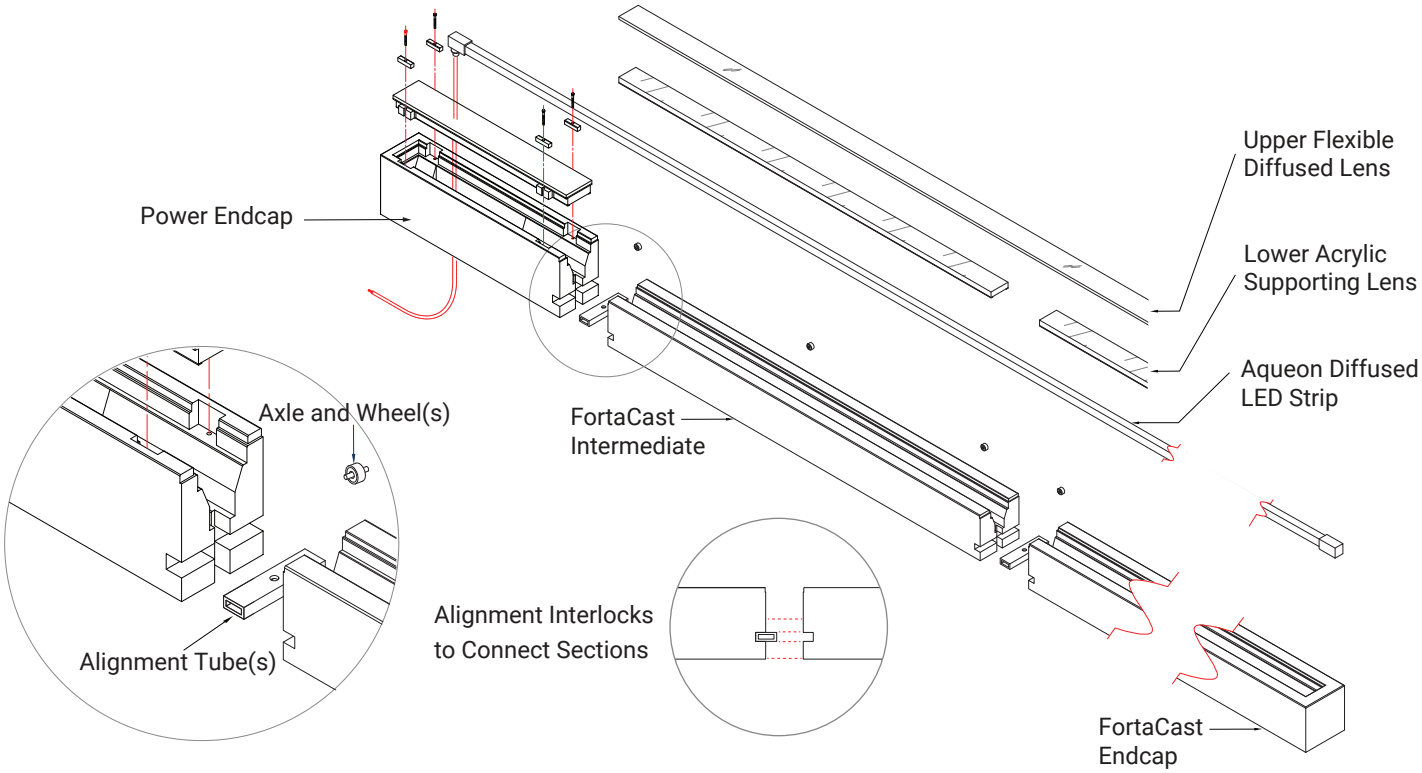
SPECIFYING FORTACAST DRIVE-OVER LIGHTING

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

Project

Date

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

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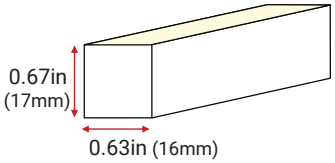
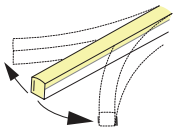
Color	CRI	Lm/ft	Lm/m	Max Length		W/ft	W/m
Aqueon Diffuse Mono							
2200K	>95	58	190	49.2ft	15m	1.83	6
2700K	>95	72	235	49.2ft	15m	1.83	6
3000K	>95	72	235	49.2ft	15m	1.83	6
3500K	>95	73	240	49.2ft	15m	1.83	6
4000K	>95	73	240	49.2ft	15m	1.83	6
5700K	>95	73	240	49.2ft	15m	1.83	6
Amber	>95	33	110	49.2ft	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

Project

Date



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 4.05x 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

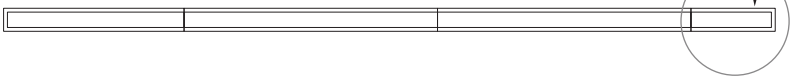
Apply FortaCast sections in limitless design possibilities. Custom lengths and radius available.

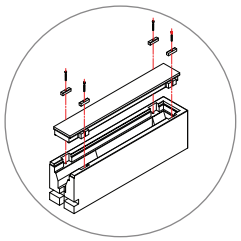
Project

Date

STANDALONE FIXTURES (Enclosed)

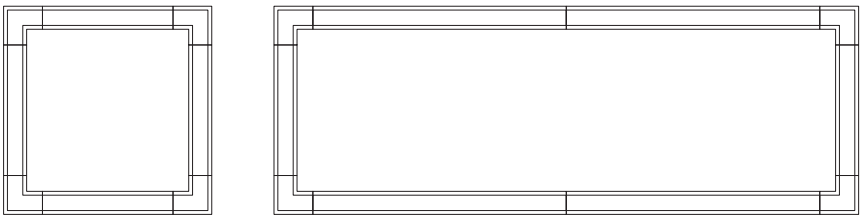
LINES - STRAIGHT SECTIONS WITH ENDCAPS





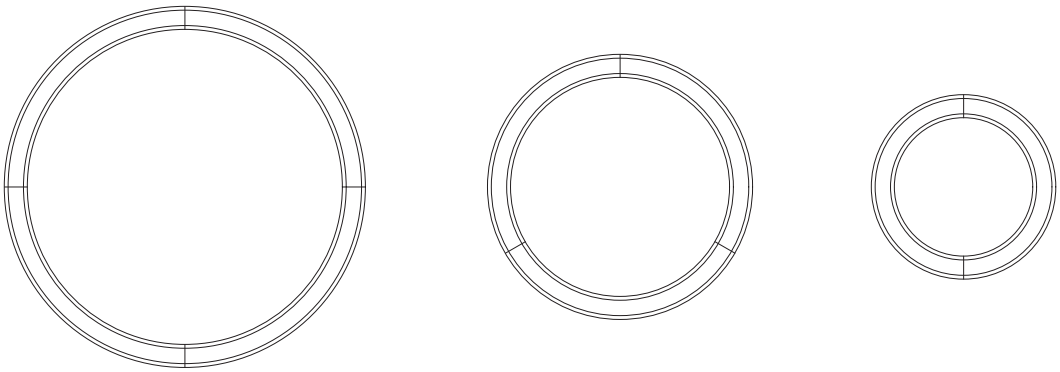
Future proof; Easy LED strip replacement without removing lenses. Simply slide out the old LED and slide in the new!

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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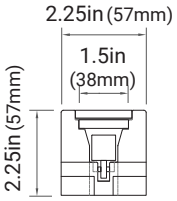
FORTACAST STANDARD SIZES AVAILABLE

CUSTOM AND STANDARD CURVED MODELS AVAILABLE

W x H + Lens Width	Length

2.25" x 2.25" (1.5" Lens) 57mm x 57mm (38mm Lens)

3.25 lbs/ft (1.47 kg/m)

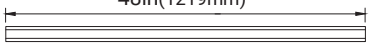


New Model!

2.25 in low profile with 1.5" lens for restricted spaces and embedding in cored out existing concrete floors.

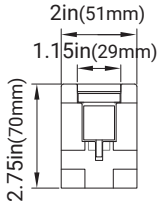
FS2X2

48in(1219mm)



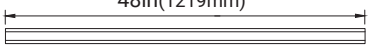
2" x 2.75" (1.15" Lens) 51mm x 70mm (29mm Lens)

3.59 lbs/ft (5.34 kg/m)



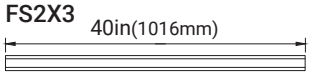
FS2X3

48in(1219mm)



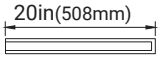
FS2X3

40in(1016mm)



FS2X3

20in(508mm)

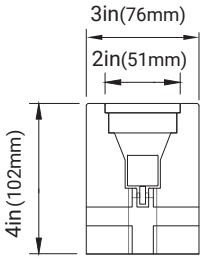


FS2X3

3in(76mm)

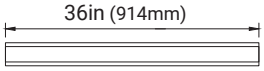
3" x 4" (2" Lens) 76mm x 102mm (51mm Lens)

7.33 lbs/ft (10.9kg/m)



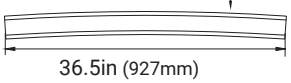
FS3X4

36in (914mm)



FC3X4

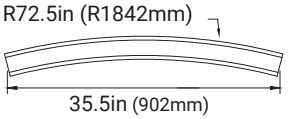
R285.5in (R7252mm)



36.5in (927mm)

FC3X4

R72.5in (R1842mm)



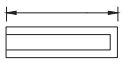
35.5in (902mm)

F90-3

5.05in (128mm)

FE3 End Unit

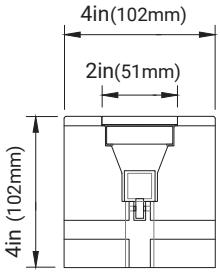
14.5in (368mm)



W x H + Lens Width	Length

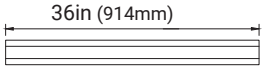
4" x 4" (2" Lens) 102mm x 102mm (51mm Lens)

10.6 lbs/ft (15.77kg/m)

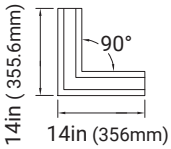


FS4X4

36in (914mm)

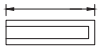


F90-4



FE4 End Unit

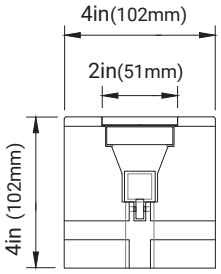
14.5in (368mm)



4" x 4" (2" Lens) - STANDALONE FIXTURES (ENCLOSED)

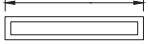
102mm x 102mm (51mm Lens)

10.6 lbs/ft (15.77kg/m)



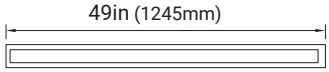
FSF22-4

22.5in (572mm)



FSF49-4

49in (1245mm)

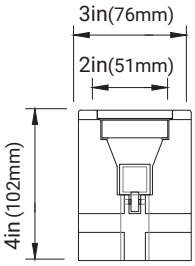


STANDARD CIRCLES 2FT / 3FT / 4FT (.61M/.91M/1.22M)

3" x 4" (2" Lens)

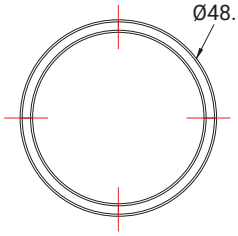
7.33 lbs/ft (10.9kg/m)

76mm x 102mm (51mm Lens)



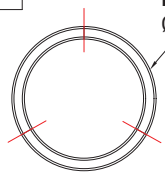
FCR-48

Ø48.5in (1232mm)



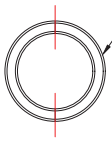
FCR-36

Ø36.5in (927mm)



FCR-24

Ø24.5in (622mm)



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