ColorReach Powercore gen2

Premium long-throw exterior LED floodlight with intelligent color light

PHILIPS

COLOR KINETICS

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ColorReach Powercore gen2 combines all the benefits of LED-based lighting and control in an elegant fixture specifically designed for large-scale installations, such as skyscrapers, casinos, bridges, piers, public monuments, and themed attractions. With levels of light output and projection never before achieved in an LED lighting fixture, ColorReach Powercore gen2 affords entirely new possibilities in exterior illumination. Custom configurations with custom channels of white or color LED sources are available to support special applications.

- Integrates Powercore technology — Powercore technology rapidly, efficiently, and accurately controls power output to fixtures directly from line voltage. Philips Data Enabler Pro merges line voltage and control data and delivers them to fixtures over a single standard cable, dramatically simplifying installation and lowering total system cost.
- Unparalleled light output — With light output of thousands of lumens, light projection of hundreds of feet, and a 5° native beam angle, ColorReach Powercore gen2 offers unprecedented LED-based illumination of large-scale structures and objects.
- Versatile optics — Exchangeable spread lenses of 8°, 13°, 23°, 40°, 63°, and an asymmetric 5° x 17° support a variety of photometric distributions for a multitude of applications, including spotlighting, wall grazing, and asymmetric wall washing. Bezel and gasket are included with spread lenses for easy user installation.
- Saturated, cost-effective color — High-performance LEDs offer rich, saturated color at significantly less cost for installation, operation, and maintenance than traditional light sources.
- Simple fixture positioning — Rugged, slim-profile mounting bracket allows simple positioning and fixture rotation through a full 360°. Side locking bolts reliably secure fixture with a standard wrench.
- Universal power input range — Fixtures accept a universal power input range, allowing consistent installation in any location around the world.
- Industry-leading controls — Fixtures work seamlessly with the complete Philips Color Kinetics line of controllers, including Light System Manager, iPlayer 3, and ColorDial Pro, as well as third-party controllers.
- Superior color consistency and accuracy — Optibin, an advanced binning algorithm, sets a new standard for the color consistency and uniformity of LED sources used in manufacturing.

Unique split design supports diffuser combinations

Each half of the fixture is individually addressable and controllable. For instance, you could use one spread lens on the fixture's lower half to bathe a large façade with color at street level, and a different spread lens to project a contrasting or complementary color hundreds of feet up the building's walls.

A Brilliant Look for Super Bowl XLIII

In 2009, Raymond James Stadium in Tampa, Florida, the host venue for Super Bowl XLIII, was brilliantly and dramatically illuminated with multiple ColorReach Powercore fixtures as part of a city-wide beautification effort for the National Football League's forty-third championship game.

The firm responsible for designing and branding the overall look of the city of Tampa for the Super Bowl chose to accentuate the stadium's exterior. The stadium was illuminated from January 27 through game day on February 1 to create a colorful and dynamic focal point for Tampa residents and visiting fans.

Seventy ColorReach Powercore fixtures lit up the stadium from dusk until dawn. Mounted on a concrete cross beam from within the stadium, the fixtures illuminated the underside of the stadium's upper 30 rows. Using 40° spread lenses, only two fixtures were required to evenly wash each 40 ft (12.2 m) by 80 ft (24.4 m) bay with color. ColorReach Powercore made the stadium visible from the air and from multiple viewpoints across the city.

Photography: Stephen Kovich

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Controlled by the iPlayer 3 digital playback controller from Philips Color Kinetics, the fixtures displayed the colors of the opposing teams and other dazzling, color-changing lighting effects.

Not only did they generate dynamic effects on a scale and intensity that no other available LED floodlight can match, ColorReach Powercore also supported the NFL's recent efforts to make the Super Bowl more green. Although ColorReach Powercore fixtures require minimal energy — just 290 watts per fixture — each is capable of projecting intense color over 500 ft (152 m) with an output of 5,000+ lumens. Even when operating at full intensity, each fixture consumes less than half the energy of a typical coffee maker. In fact, energy consumption for the Super Bowl installation totalled under 22,000 watts. By comparison, traditional metal halide fixtures typically used in such exterior projects consume 1,000 watts each, for a total of well over 70,000 watts. Not only do metal halide fixtures consume 70% more electricity, but they can't match the brilliance and light projection of ColorReach Powercore, nor can they project dynamic color-changing effects.

ColorReach Powercore helped create a visually striking look for the city of Tampa, while matching the excitement of one of the most important sporting events of the year.

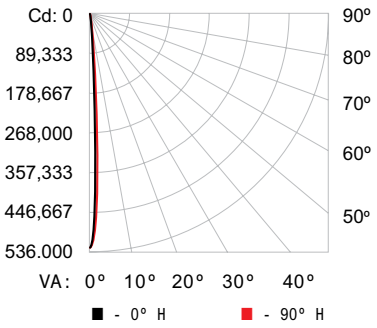
Photometrics / ColorReach Powercore

Photometric data is based on test results from an independent NIST traceable testing lab. IES data is available at www.philipscolorkinetics.com/support/ies.

5° (no spread lens)

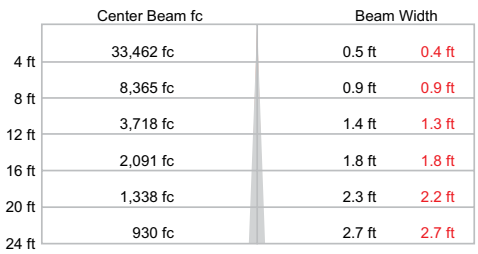
LED	Lumens	Efficacy
RGB	8937	35.8

Polar Candela Distribution



0	535391	535391	53
5	103780	97518	9
15	1023	1002	
25	316	312	
35	168	162	
45	106	99	

Illuminance at Distance



732 ft (223.1 m)
1 fc maximum distance

Vert. Spread: 6.5°
Horiz. Spread: 6.4°

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	119	119	119	119	116	116	116	100	111	111	111	106	106	106	102	102	102	100
1	116	114	112	111	114	112	111	99	108	107	106	104	104	103	101	100	100	98
2	113	110	108	106	111	109	107	98	106	104	103	103	102	101	100	99	98	97
3	111	108	105	103	109	106	104	97	104	102	100	102	100	99	100	98	97	96
4	109	105	102	100	108	104	102	96	102	100	99	101	99	98	99	98	97	96
5	108	104	101	99	106	103	100	95	101	99	97	100	98	97	99	97	96	95
6	106	102	99	97	105	101	99	95	100	98	96	99	97	96	98	97	95	95
7	105	101	98	96	104	100	98	95	99	97	96	99	97	95	98	96	95	94
8	104	100	97	96	103	100	97	94	99	97	95	98	96	95	97	96	94	94
9	103	99	97	95	103	99	96	94	98	96	95	97	96	94	97	95	94	93
10	102	98	96	94	102	98	96	94	98	95	94	97	95	94	97	95	94	93

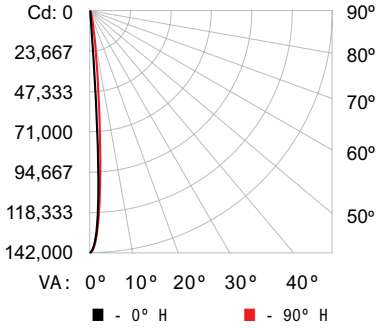
Zonal Lumen

Zone	Lumens	% Fixture
0 - 60	8759.4	98.0 %
60 - 90	177.6	2.0 %
0 - 90	8937.0	100.0 %

8° spread lens, half unit

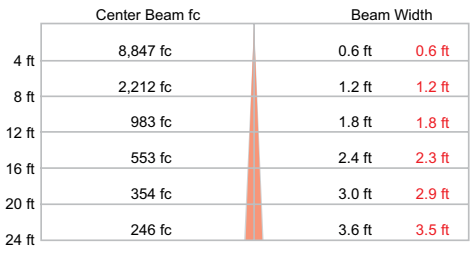
LED	Lumens	Efficacy
RGB	3796	27.7

Polar Candela Distribution



	0	25	45	70	90
0	141546	141546	141546	141546	141546
5	51073	54259	54274	56276	58731
15	634	643	668	690	714
25	169	169	173	173	185
35	96	95	91	90	109
45	54	51	49	51	52
55	40	41	35	37	37
65	31	30	27	27	27
75	24	23	22	22	22
85	21	20	20	20	20
90	20	20	0	0	0

Illuminance at Distance



376 ft (114.6 m)
1 fc maximum distance

Vert. Spread: 8.5°
Horiz. Spread: 8.4°

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	119	119	119	119	116	116	116	100	111	111	111	106	106	106	102	102	102	100
1	116	114	112	111	113	112	111	98	108	107	106	104	104	103	101	100	100	98
2	113	110	108	106	111	109	107	97	106	104	102	103	102	100	100	99	98	97
3	111	107	105	102	109	106	104	96	104	102	100	102	100	99	100	98	97	96
4	109	105	102	100	108	104	101	96	102	100	98	100	99	97	99	97	96	95
5	107	103	100	98	106	102	100	95	101	99	97	100	98	96	98	97	95	94
6	106	102	99	97	105	101	98	94	100	98	96	99	97	95	98	96	95	94
7	105	100	98	96	104	100	97	94	99	97	95	98	96	95	97	95	94	93
8	104	99	97	95	103	99	96	93	98	96	94	97	95	94	97	95	94	93
9	103	98	96	94	102	98	96	93	97	95	94	97	95	93	96	94	93	93
10	102	97	95	93	101	97	95	93	97	95	93	96	94	93	96	94	93	92

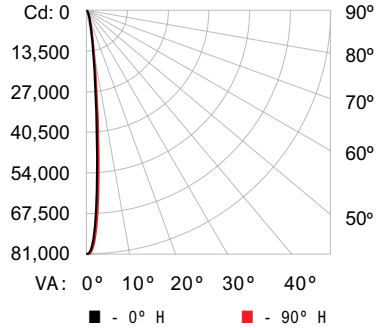
Zonal Lumen

Zone	Lumens	% Fixture
0 - 60	4419.9	98.1 %
60 - 90	84.9	1.9 %
0 - 90	4504.8	100.0 %

13° spread lens, half unit

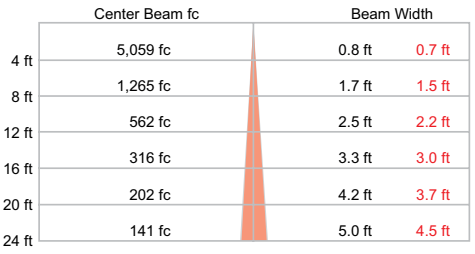
LED	Lumens	Efficacy
RGB	3756	27.4

Polar Candela Distribution



	0	25	45	70	90
0	80949	80949	80949	80949	80949
5	46190	46041	45544	45473	46699
15	1520	1484	1350	1197	1167
25	182	182	181	178	183
35	103	101	96	94	105
45	57	54	51	51	53
55	40	38	36	36	36
65	30	30	28	28	27
75	24	23	22	22	22
85	20	20	20	20	20
90	20	0	0	0	0

Illuminance at Distance



285 ft (86.8 m)
1 fc maximum distance

Vert. Spread: 11.9°
Horiz. Spread: 10.7°

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	119	119	119	119	116	116	116	100	111	111	111	106	106	106	102	102	102	100
1	116	114	112	111	113	112	110	98	108	107	106	104	103	102	101	100	100	98
2	113	110	107	105	111	108	106	97	105	103	102	102	101	100	100	99	98	96
3	110	107	104	101	109	105	103	96	103	101	99	101	99	98	99	97	96	95
4	108	104	101	99	107	103	100	94	101	99	97	99	98	96	98	96	95	94
5	106	102	99	97	105	101	98	94	100	97	95	98	96	95	97	95	94	93
6	105	100	97	95	104	100	97	93	98	96	94	97	95	93	96	94	93	92
7	103	99	96	94	102	98	95	92	97	95	93	96	94	92	95	93	92	91
8	102	97	94	92	101	97	94	91	96	94	92	95	93	92	95	93	91	91
9	101	96	93	91	100	96	93	91	95	93	91	95	92	91	94	92	91	90
10	100	95	92	91	99	95	92	90	94	92	90	94	92	90	93	91	90	89

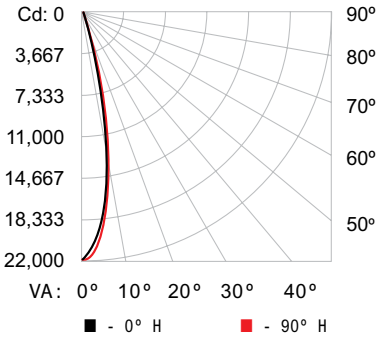
Zonal Lumen

Zone	Lumens	% Fixture
0 - 60	3979.5	98.2 %
60 - 90	73.9	1.8 %
0 - 90	4053.4	100.0 %

23° spread lens, half unit

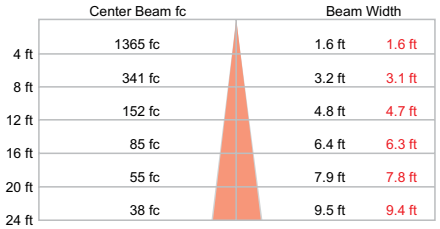
LED	Lumens	Efficacy
RGB	3812	27.8

Polar Candela Distribution



	0	25	45	70	90
0	21836	21836	21836	21836	21836
5	18700	19044	19314	19604	19751
15	6286	6627	6843	7046	7140
25	850	900	916	939	955
35	131	132	130	131	133
45	69	69	67	67	68
55	48	47	46	45	45
65	35	35	34	33	33
75	26	26	25	24	24
85	20	20	20	20	20
90	19	9	7	3	0

Illuminance at Distance



148 ft (45.1 m)
1 fc maximum distance

Vert. Spread: 22.5°
Horiz. Spread: 22.2°

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	119	119	119	119	116	116	116	100	111	111	111	106	106	106	102	102	102	100
1	115	112	110	109	112	110	109	96	106	105	104	103	102	101	99	98	98	96
2	111	107	104	101	109	105	103	93	102	100	98	99	98	96	97	95	94	93
3	107	102	99	96	105	101	98	90	99	96	94	96	94	92	94	92	91	89
4	104	99	95	91	102	97	94	87	96	92	90	94	91	89	92	90	88	87
5	101	95	91	88	100	94	90	85	93	89	87	91	88	86	90	87	85	84
6	98	92	88	85	97	91	87	83	90	87	84	89	86	83	88	85	83	82
7	96	89	85	82	95	89	85	81	88	84	82	87	83	81	86	83	81	80
8	93	87	83	80	92	86	82	79	85	82	79	84	81	79	84	81	79	78
9	91	84	80	78	90	84	80	77	83	80	77	82	79	77	82	79	77	76
10	89	82	78	76	88	82	78	75	81	78	75	81	77	75	80	77	75	74

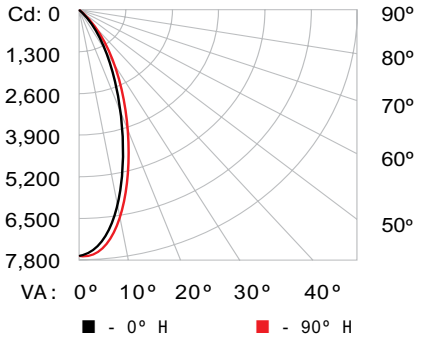
Zonal Lumen

Zone	Lumens	% Fixture
0 - 60	3981.5	98.0 %
60 - 90	81.6	2.0 %
0 - 90	4063.1	100.0 %

40° spread lens, half unit

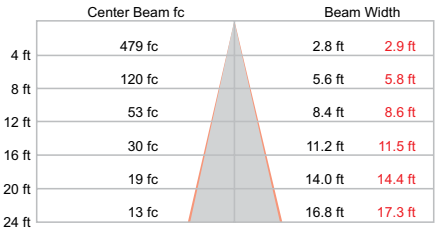
LED	Lumens	Efficacy
RGB	3751	27.4

Polar Candela Distribution



	0	25	45	70	90
0	7659	7659	7659	7659	7659
5	7135	7226	7287	7380	7432
15	4812	4985	5142	5340	5442
25	2266	2399	2536	2720	2812
35	719	778	840	930	981
45	177	193	202	220	235
55	70	72	72	71	72
65	45	45	43	42	42
75	29	29	27	27	27
85	19	19	18	18	18
90	18	18	18	18	18

Illuminance at Distance



88 ft (26.8 m)
1 fc maximum distance

Vert. Spread: 38.7°
Horiz. Spread: 39.6°

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	119	119	119	119	116	116	116	100	111	111	111	106	106	106	102	102	102	100
1	114	111	108	106	111	109	106	94	105	103	101	101	100	98	97	96	95	94
2	108	104	100	96	106	102	98	88	99	96	93	96	93	91	93	91	89	88
3	103	97	92	89	101	96	91	83	93	90	87	91	88	85	89	86	84	82
4	99	92	86	82	97	90	86	79	88	84	81	86	83	80	84	82	79	78
5	94	86	81	77	93	86	80	74	84	79	76	82	78	75	81	77	75	73
6	90	82	76	72	89	81	76	70	80	75	72	78	74	71	77	73	71	69
7	86	78	72	68	85	77	72	67	76	71	68	75	70	67	74	70	67	66
8	83	74	68	65	82	73	68	64	72	68	64	71	67	64	70	67	64	62
9	79	70	65	61	78	70	65	61	69	64	61	68	64	61	67	64	61	59
10	76	67	62	58	75	67	62	58	66	61	58	65	61	58	65	61	58	57

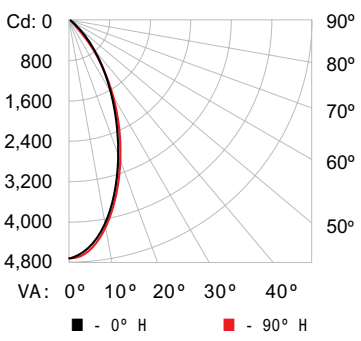
Zonal Lumen

Zone	Lumens	% Fixture
0 - 60	3981.5	98.0 %
60 - 90	81.6	2.0 %
0 - 90	4063.1	100.0 %

63° spread lens, half unit

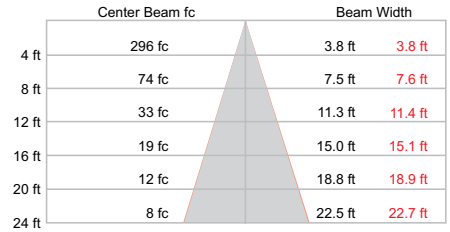
LED	Lumens	Efficacy
RGB	3709	27.1

Polar Candela Distribution



	0	25	45	70	90
0	4733	4733	4733	4733	4733
5	4524	4533	4551	4586	4611
15	3543	3568	3595	3658	3722
25	2269	2219	2204	2231	2285
35	1149	1062	1016	1000	1025
45	473	405	367	350	358
55	172	140	124	116	119
65	70	61	56	51	50
75	35	31	28	25	24
85	18	17	17	16	16
90	16	0	0	0	0

Illuminance at Distance



69 ft (21.0 m)
1 fc maximum distance

Vert. Spread: 50.3°
Horiz. Spread: 50.6°

Coefficients Of Utilization - Zonal Cavity Method

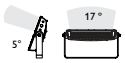
Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	119	119	119	119	116	116	116	100	111	111	111	106	106	106	102	102	102	100
1	113	110	107	104	110	108	105	92	103	101	100	100	98	97	96	95	94	92
2	106	101	97	93	104	99	95	85	96	93	90	93	90	88	90	88	86	84
3	101	93	88	84	98	92	87	78	89	85	82	87	83	80	85	82	79	77
4	95	87	81	76	93	86	80	73	83	79	75	81	77	74	79	76	73	71
5	90	81	74	70	88	80	74	67	78	73	69	76	72	68	75	71	68	66
6	85	75	69	64	83	75	68	63	73	68	64	72	67	63	70	66	63	61
7	81	71	64	60	79	70	64	58	69	63	59	67	62	59	66	62	58	57
8	76	66	60	56	75	66	60	55	65	59	55	64	59	55	63	58	55	53
9	73	62	56	52	72	62	56	51	61	56	52	60	55	52	59	55	51	50
10	69	59	53	49	68	59	53	48	58	52	49	57	52	48	56	52	48	47

Zonal Lumen

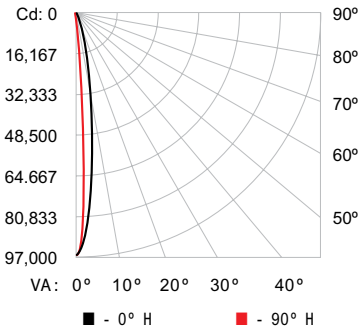
Zone	Lumens	% Fixture
0 - 60	3877.6	96.7 %
60 - 90	131.0	3.3 %
0 - 90	4008.6	100.0 %

5° x 17° spread lens, half unit



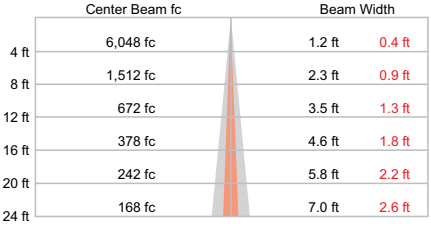
LED	Lumens	Efficacy
RGB	3814	27.9

Polar Candela Distribution



	0	25	45	70	90
0	96765	96765	96765	96765	96765
5	69434	57305	38831	23251	20218
15	9262	1558	619	428	416
25	572	191	161	150	153
35	166	99	91	79	82
45	98	56	49	46	46
55	66	39	34	35	35
65	46	31	27	26	25
75	30	24	22	21	21
85	20	19	20	20	20
90	19	0	0	0	0

Illuminance at Distance



311 ft (94.7 m)
1 fc maximum distance

Vert. Spread: 16.5°
Horiz. Spread: 6.3°

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

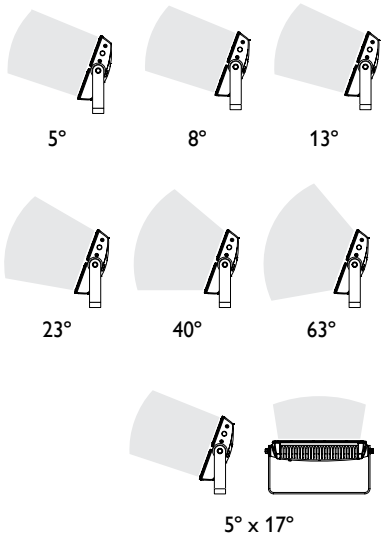
RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	119	119	119	119	116	116	116	100	111	111	111	106	106	106	102	102	102	100
1	116	114	112	110	113	112	110	98	108	106	105	104	103	102	101	100	99	98
2	113	109	107	105	111	108	105	96	105	103	101	102	100	99	99	98	97	96
3	110	106	103	101	108	105	102	95	102	100	98	100	98	97	98	97	95	94
4	108	103	100	98	106	102	99	94	100	98	96	99	97	95	97	95	94	93
5	106	101	98	95	104	100	97	92	99	96	94	97	95	93	96	94	93	92
6	104	99	96	94	103	98	95	91	97	95	93	96	94	92	95	93	92	91
7	102	97	94	92	101	97	94	90	96	93	91	95	93	91	94	92	91	90
8	101	96	93	91	100	96	93	90	95	92	90	94	92	90	93	91	90	89
9	99	95	92	90	99	94	91	89	94	91	89	93	91	89	92	90	89	88
10	98	93	91	89	98	93	90	88	93	90	88	92	90	88	91	89	88	87

Zonal Lumen

Zone	Lumens	% Fixture
0 - 60	4008.1	98.1 %
60 - 90	75.8	1.9 %
0 - 90	4083.9	100.0 %

Specifications, UL / CE

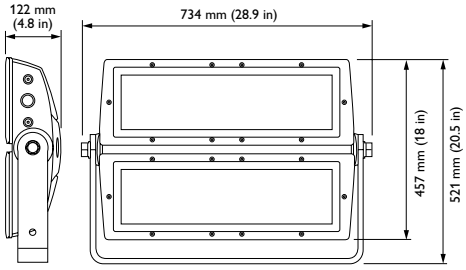
Due to continuous improvements and innovations, specifications may change without notice.

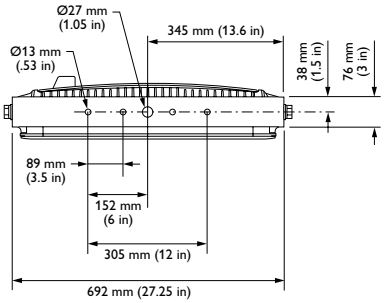


Item	Specification	Details
Output	Beam Angle	5° primary optic (no spread lens) 8° / 13° / 23° / 40° / 63° / 5° x 17° (asymmetric) spread lenses
	Lumens*	8,937 (full unit, no spread lens)
	LED Channels	Red / Green / Blue
	Mixing Distance	50 ft (15.2 m) to uniform light
	Lumen Maintenance†	100,000 hours L_{70} @ 25° C 100,000 hours L_{70} @ 50° C
Electrical	Input Voltage	100 – 277 VAC, auto-switching, 50 / 60 Hz
	Power Consumption	270 W maximum at full output, steady state
Control	Interface	Data Enabler Pro (DMX / Ethernet)
	Control System	Philips Color Kinetics full range of controllers, including Light System Manager, iPlayer 3, and ColorDial Pro, or third-party controllers
Physical	Dimensions *(Height x Width x Depth)*	20.5 x 28.9 x 4.8 in (521 x 734 x 122 mm)
	Weight	75 lb (34 kg)
	Effective Projected Area (EPA)	0.42 m^2
	Housing	Die-cast aluminium, powder-coated finish
	Lens	Tempered glass
	Fixture Connections	Integral male / female waterproof connector, 6 ft (1.8 m) unified power / data cable
	Temperature Ranges	-40° – 122° F (-40° – 50° C) Operating -4° – 122° F (-20° – 50° C) Startup -40° – 176° F (-40° – 80° C) Storage
	Humidity	0 – 95%, non-condensing
	Fixture Run Lengths	To calculate fixture run lengths and total power consumption for your specific installation, download the Configuration Calculator from www.philipscolorkinetics.com/support/install_tool/
Certification and Safety	Certification	UL / cUL, FCC Class A, CE, PSE
	Environment	Dry / Damp / Wet Location, IP66

* Lumen measurement complies with IES LM-79-08 testing procedures

† L_{70} = 70% lumen maintenance (when light output drops below 70% of initial output). Ambient luminaire temperatures specified. Lumen maintenance calculations are based on lifetime prediction graphs supplied by LED source manufacturers. Calculations for white-light LED fixtures are based on measurements that comply with IES LM-80-08 testing procedures. Refer to www.philipscolorkinetics.com/support/appnotes/lm-80-08.pdf for more information.





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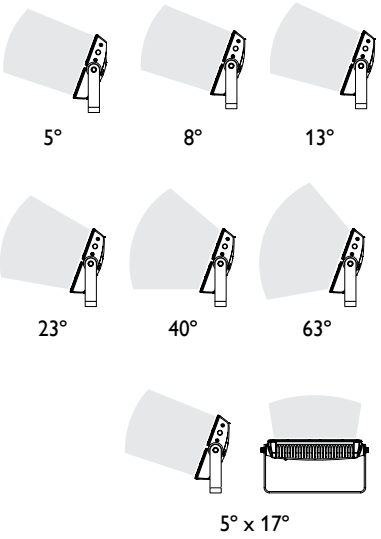
Specifications, CQC

Due to continuous improvements and innovations, specifications may change without notice.

Item	Specification	Details
Output	Beam Angle	5° primary optic (no spread lens) 8° / 13° / 23° / 40° / 63° / 5° x 17° (asymmetric) spread lenses
	Lumens*	8,937 (full unit, no spread lens)
	LED Channels	Red / Green / Blue
	Mixing Distance	50 ft (15.2 m) to uniform light
	Lumen Maintenance†	100,000 hours L_{70} @ 25° C 100,000 hours L_{70} @ 50° C
Electrical	Input Voltage	100 – 240 VAC, auto-switching, 50 / 60 Hz
	Power Consumption	290 W maximum at full output, steady state
Control	Interface	Data Enabler Pro (DMX / Ethernet)
	Control System	Philips Color Kinetics full range of controllers, including Light System Manager, iPlayer 3, and ColorDial Pro, or third-party controllers
Physical	Dimensions *(Height x Width x Depth)*	20.5 x 28.9 x 4.8 in (521 x 734 x 122 mm)
	Weight	75 lb (34 kg)
	Effective Projected Area (EPA)	0.42 m^2
	Housing	Die-cast aluminium, powder-coated finish
	Lens	Tempered glass
	Fixture Connections	Integral male / female waterproof connector, 6 ft (1.8 m) unified power / data cable
	Temperature Ranges	-40° – 122° F (-40° – 50° C) Operating -4° – 122° F (-20° – 50° C) Startup -40° – 176° F (-40° – 80° C) Storage
	Humidity	0 – 95%, non-condensing
	Fixture Run Lengths	To calculate fixture run lengths and total power consumption for your specific installation, download the Configuration Calculator from www.philipscolorkinetics.com/support/install_tool/
Certification and Safety	Certification	UL / cUL, FCC Class A, CE, PSE, C-Tick
	Environment	Dry / Damp / Wet Location, IP66



* Lumen measurement complies with IES LM-79-08 testing procedures

† L_{70} = 70% lumen maintenance (when light output drops below 70% of initial output). Ambient luminaire temperatures specified. Lumen maintenance calculations are based on lifetime prediction graphs supplied by LED source manufacturers. Calculations for white-light LED fixtures are based on measurements that comply with IES LM-80-08 testing procedures. Refer to www.philipscolorkinetics.com/support/appnotes/lm-80-08.pdf for more information.

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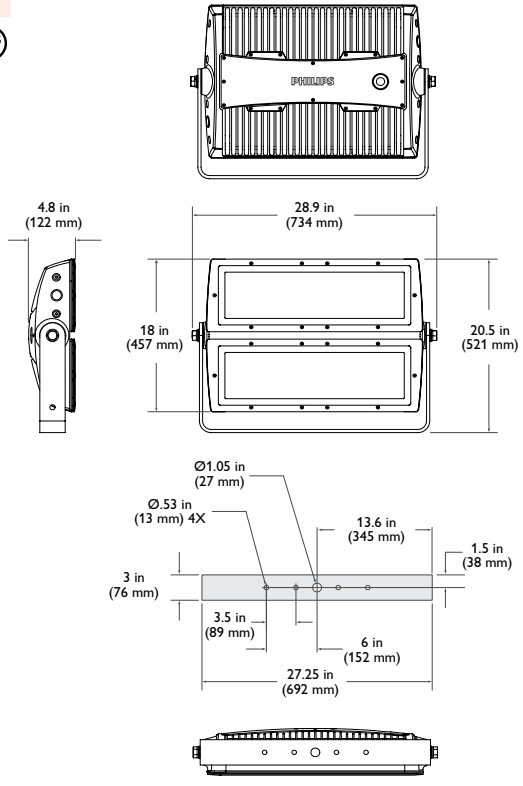


Custom Configurations

In addition to the standard configurations listed here, custom configurations are also available with non-standard colors or color temperatures. See the ColorReach Powercore gen2 Ordering Information sheet at www.philipscolorkinetics.com/ls/rgb/colorreach/ for complete details.

Component	Available Non-Standard Options
Color Temperature	2700K, 3000 K, 3500 K, 4000 K, 5500 K, 6000 K, 6500 K
Color	Royal Blue, Blue, Green, Amber, Red

Fixture and Accessories

ColorReach Powercore gen2 fixtures are part of a complete line-voltage system which includes fixtures and:

- One or more Data Enabler Pro devices.
- Any Philips controller, including Light System Manager, iPlayer 3, and ColorDial Pro, or a third-party controller.
- One 1.8 m (6 ft) leader cable to connect each ColorReach Powercore gen2 fixture to a junction box or Data Enabler Pro.
- 4-conductor copper wire to connect ColorReach Powercore gen2 fixtures in series or in parallel. Standard 12 AWG (2.05 mm) stranded wire is recommended

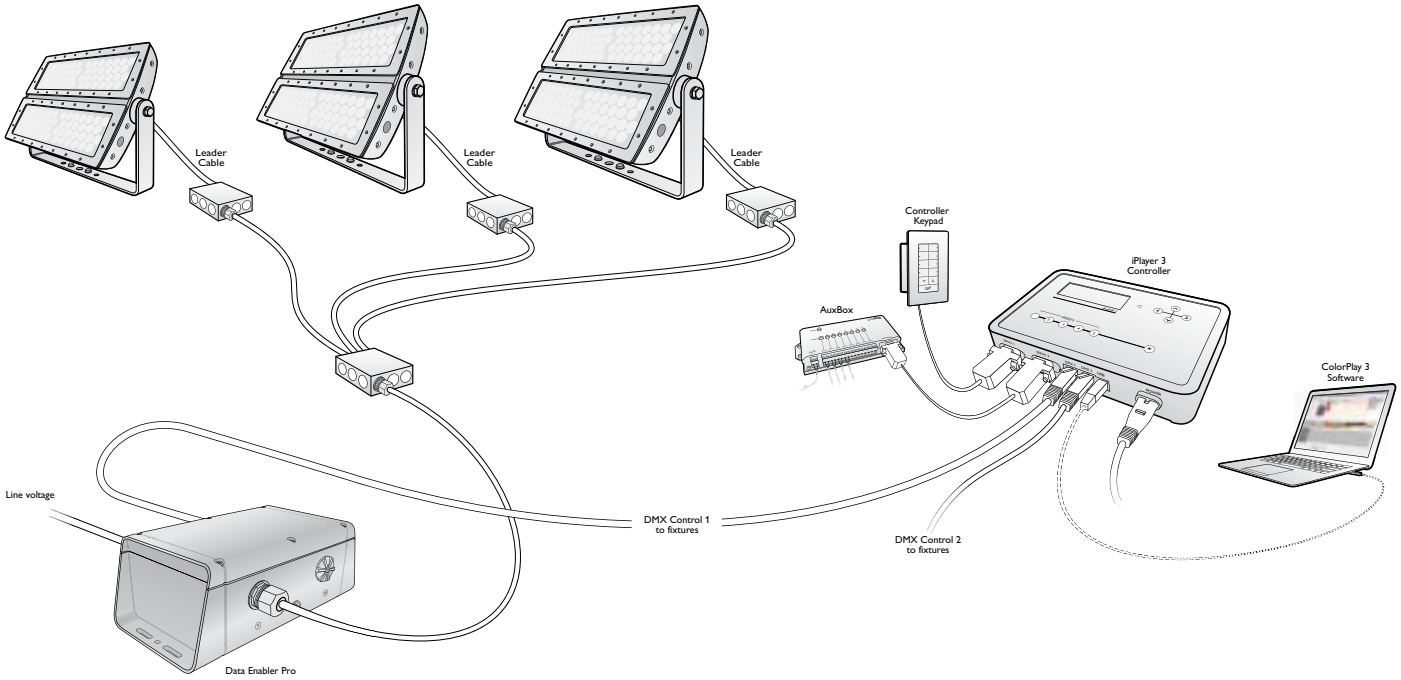
Fixtures and Accessories

Item	Type		Item Number	Philips 12NC
ColorReach Powercore gen2 *Includes 1.8 m (6 ft) leader cable*	CE / CQC / PSE		123-000013-51	912400130192
ColorReach Powercore gen2 *Includes 3 m (10 ft) leader cable*	UL / CE		123-000153-00	912400130182
Leader Cable, 100–277 V,AC UL / CE	UL	3 m (10 ft)	108-000055-03	910503704066
		15.2 m (50 ft)	108-000055-00	910503703137
	CE / PSE	3 m (10 ft)	108-000055-04	910503704067
		15.2 m (50 ft)	108-000055-01	910503704064
Leader Cable, 100–240 VAC, CQC	CE / PSE	1.8 m (6 ft)	108-000043-03	910503700454
ColorReach Powercore Spread Lens with bezel	8°		120-000068-05	910503700511
	13°		120-000068-00	910503700506
	23°		120-000068-01	910503700507
	40°		120-000068-02	910503700508
	63°		120-000068-03	910503700509
	Asymmetric (5° x 17°)		120-000068-04	910503700510
Data Enabler Pro	3/4 in / 1/2 in NPT (U.S. trade size conduit)		106-000004-00	910503701210
	PG21 / PG13 (metric size conduit)		106-000004-01	910503701211

Use Item Number when ordering in North America.

Typical ColorReach
Powercore gen2 installation

For detailed wiring diagrams visit
www.philipscolorkinetics.com/support/wiring/ls_prod.html



Installation

ColorReach Powercore gen2, a high-performance exterior architectural floodlight with extended light projection, is designed to brilliantly and dynamically illuminate prominent, signature façades. Because each ColorReach Powercore gen2 fixture weighs 34 kg (75 lb), you may need two people to lift the fixture out of the box and position it in the mounting location. Optional accessory optics require the installation of both a spread lens and a bezel on each half of the fixture.

Owner / User Responsibilities

Refer to the ColorReach Powercore Installation Instructions for specific warning and caution statements.

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate ColorReach Powercore gen2 fixtures in such a manner as to comply with all applicable codes, state and local laws, ordinances, and regulations. Consult with the appropriate electrical inspector to ensure compliance.

Installing in Damp or Wet Locations

When installing in damp or wet locations, you must seal all junction boxes and Data Enabler Pro devices with electronics-grade RTV silicone sealant so that water or moisture cannot enter or accumulate in wiring compartments, cables, fixtures, or other electrical parts. You must use suitable outdoor-rated junction boxes when installing in wet or damp locations. Additionally, you must use gaskets, clamps, and other parts required for installation to comply with all applicable local and national codes.

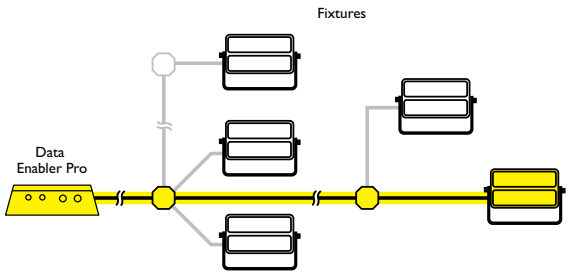
Prepare for the Installation

1. Refer to the lighting design plan, architectural diagram, or other diagram that shows the physical layout of the installation to identify the locations of all switches, controllers, Data Enabler Pro devices, fixtures, and cables.

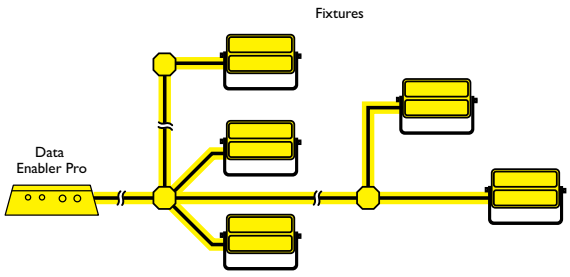
   To streamline the configuration of complex installations, record the serial number (DMX) or IP address (Ethernet) and location of each Data Enabler Pro..

   ColorReach Powercore gen2 fixtures can be installed in series or in parallel (wired to a common junction box). The maximum number of fixtures each Data Enabler Pro can support depends on specific configuration details such as fixture spacing, circuit size, line voltage, and method of connection (in series or in parallel). For more information, and for help calculating the number of fixtures your specific installation can support, download the Configuration Calculator from www.philipscolorkinetics.com/support/install_tool/, or consult Application Engineering Services at support@colorkinetics.com.

   In addition to maximum fixture run lengths determined by the electrical configuration, each Data Enabler Pro imposes maximum run lengths based on data integrity. To ensure data integrity, maximum individual run length should not exceed 53.3 m (175 ft), and the total cable length per Data Enabler Pro should not exceed 122 m (400 ft).



Data Integrity – maximum individual length 53.3 m (175 ft)



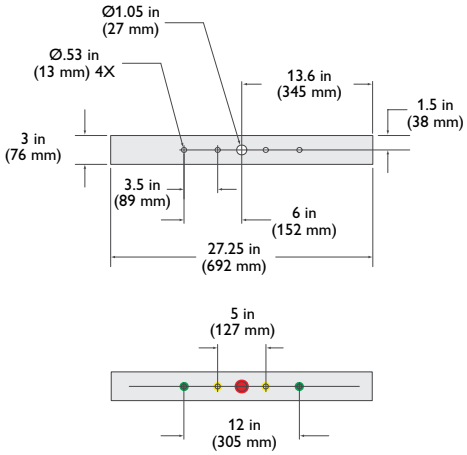
Data Integrity – total length 122 m (400 ft)

2. Ensure that the fixture mounting locations and substrates are sufficiently sturdy to bear the weight of each ColorReach Powercore gen2 fixture. Pre-drill holes in the mounting substrate if necessary, making reference to the mounting bracket dimensions. Use at least two screws to secure each fixture, one on either side of the mounting bracket's central screw hole.

   If mounting ColorReach Powercore gen2 on a lighting pole, make sure the pole can both support the total weight of the fixtures and withstand the maximum velocity winds to which it will be subjected. Each fixture weighs 75 lb (34 kg), and has an effective projected area (EPA) of 0.42 m^2.

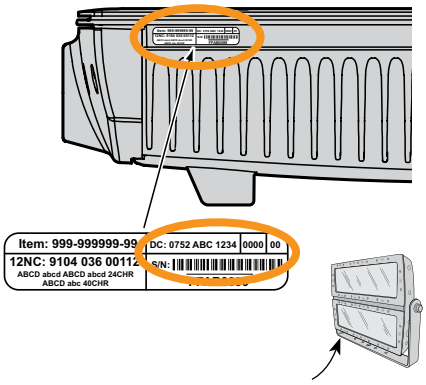
3. Install all Data Enabler Pro devices, including any interfaces with controllers. Data Enabler Pro and external controllers send power and control signals to fixtures over the single leader cable.
4. Verify that all additional supporting equipment (switches, controllers) is in place.
5. Ensure that all additional parts and tools are available, including:
   - A 28 mm hex or adjustable wrench for adjusting the locking bolts on the fixture bracket.
   - One electrical junction box per fixture, rated for your application. (Refer to the junction box manufacturer's literature for additional items required for mounting or sealing.)
   - A sufficient length of 4-conductor copper wire. We recommend 12 AWG (2.05 mm) stranded wire.
   - Conduit as required.
   - Electronics-grade room temperature vulcanizing (RTV) silicone sealant.

Mounting bracket dimensions for pre-drilling

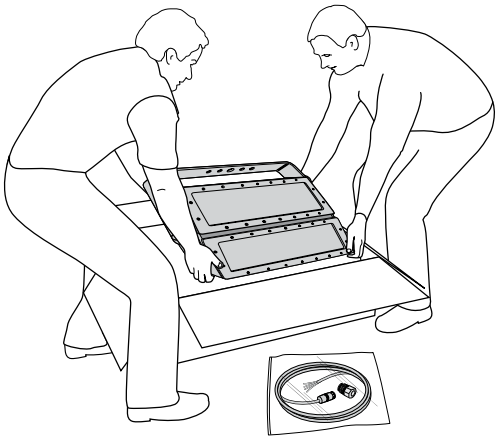


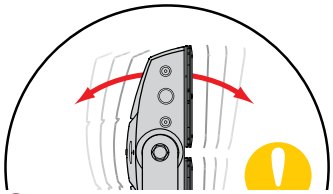
Unpack the Fixtures

1. Unpack ColorReach Powercore gen2 fixtures. Because each ColorReach Powercore gen2 fixture weighs 34 kg (75 lb), you may need two people to lift the fixture out of the box and position it in the mounting location.
2. Each ColorReach Powercore gen2 fixture comes pre-programmed with a unique serial number. As you unpack the fixtures, record the serial numbers in a layout grid (typically a spreadsheet or list) for easy reference and light addressing.
3. Assign each fixture to a position in the lighting design plan.



4. To streamline installation and aid in light show programming, you can affix a weatherproof label identifying the order or placement in the installation to an inconspicuous location on each light fixture's housing.

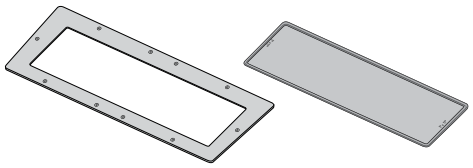


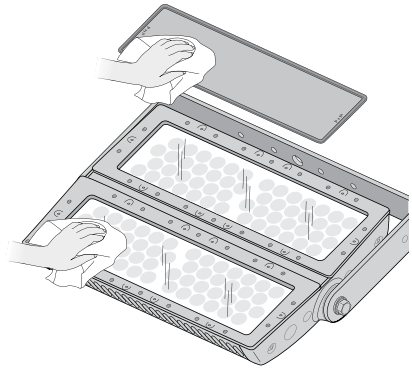


Do not rest ColorReach Powercore gen2 on its back, as doing so may damage the connector port. Be careful not to tip the fixture over during positioning.

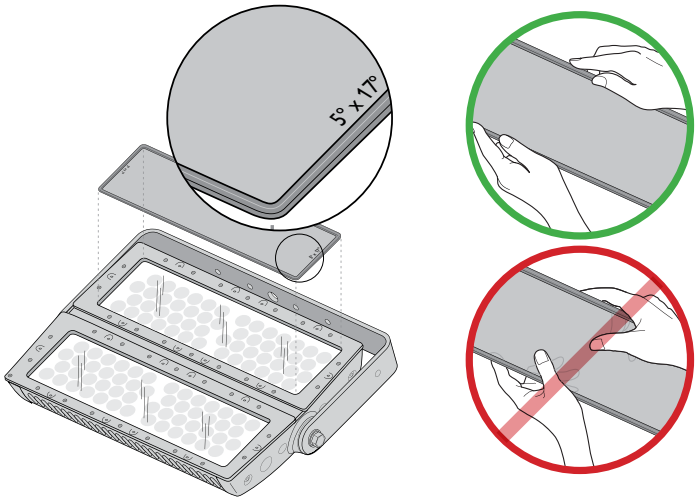
Attach Spread Lenses (Optional)

Exchangeable ColorReach Powercore gen2 spread lenses of 8°, 13°, 23°, 40°, 63°, and an asymmetric 17° x 5° support a variety of photometric distributions for a multitude of applications, including spotlighting, wall grazing, and asymmetric wall washing. Each half of ColorReach Powercore gen2 can be individually addressed and controlled, and you can install different spread lenses on each half of the fixture's housing for precise control of light diffusion.

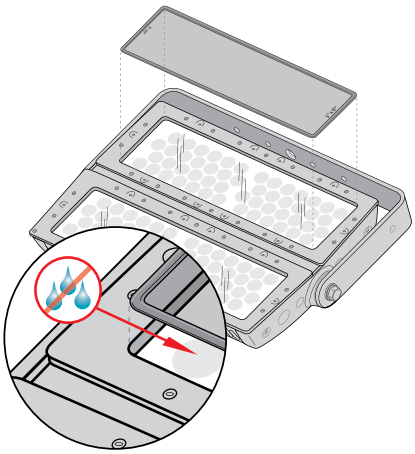




1. Unpack and confirm the contents of the box. Each box contains one lens kit, consisting of a spread lens with attached rubber gasket, and a bezel with 10 captured mounting screws.
2. Clean both sides of the spread lens and the face of the ColorReach Powercore gen2 housing, including glass surfaces, using a mild, non-abrasive cleaner. Ensure that all surfaces are dry, and that the gasket is properly fitted to the lens.
3. Position the spread lens so that the beam-angle designation on the side of the lens is face up. Handle the spread lens by the gasket, making sure not to touch or soil either surface of the spread lens.

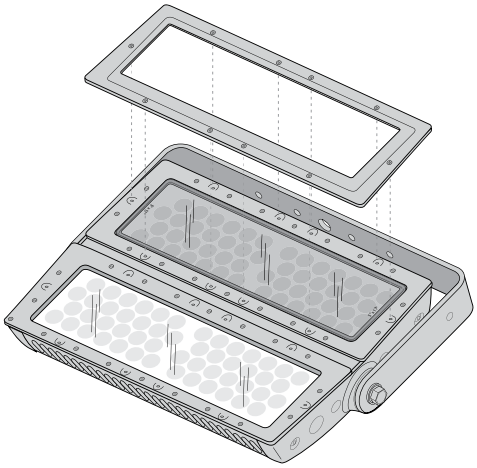


4 Place the spread lens on top of the ColorReach Powercore gen2 housing. Make sure that the spread lens and gasket are seated properly within the fixture housing. Also make sure that there is no moisture between the spread lens and the glass, as any moisture will compromise the effectiveness of the spread lens.

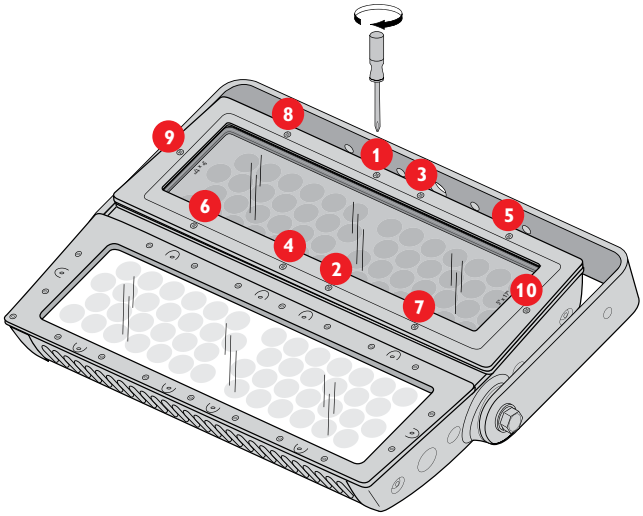


For installation in extreme environments, refer to the Reach Spread Lens Kit Installation Instructions for details on sealing the spread lens and bezel to prohibit water ingress.

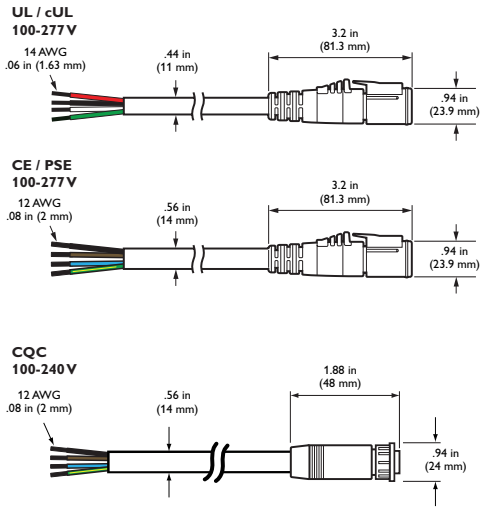
5. Position the bezel over the spread lens.

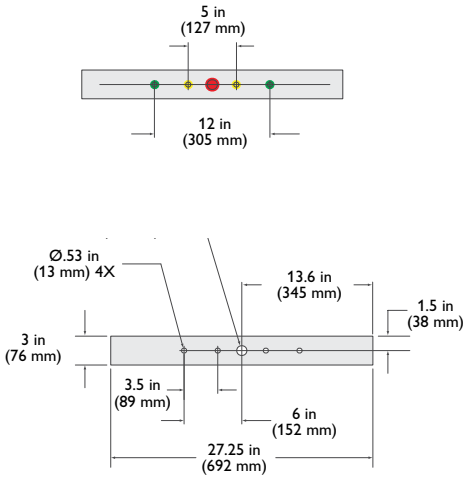


6. With a standard #2 Phillips screwdriver, attach the bezel to the fixture housing using the screws provided. To ensure a watertight seal, tighten the screws to approximately 20 – 30 in-lbs (2.2 – 3.4 Nm) in the sequence shown below.



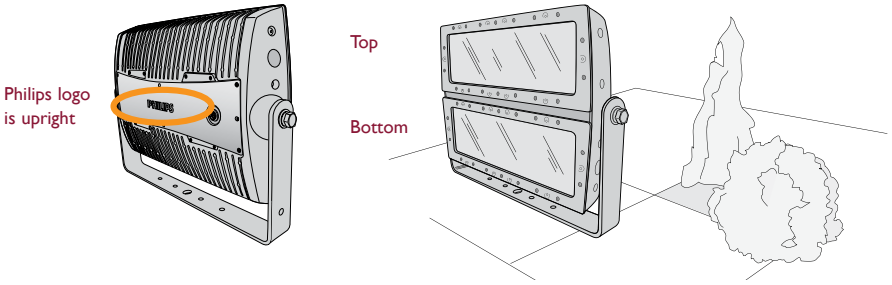
Leader Cable connector dimensions



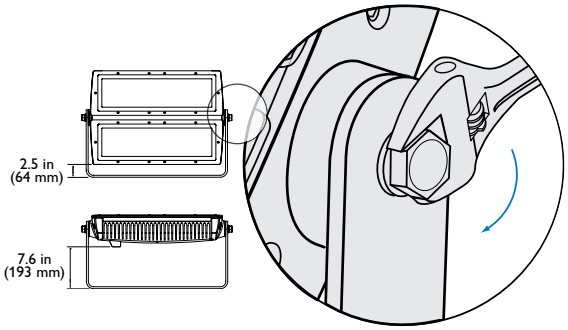


Position and Mount Fixtures

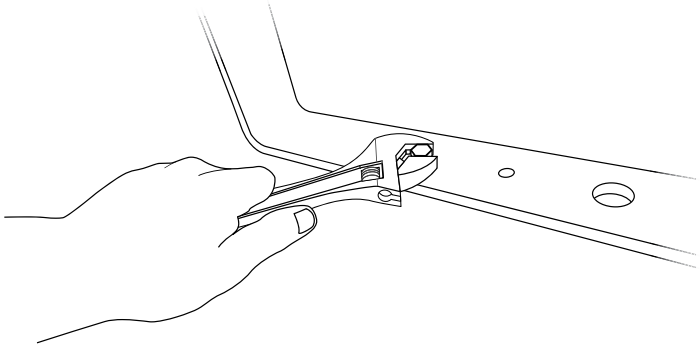
1. Position each ColorReach Powercore gen2 fixture in its designated mounting location. Make sure the mounting area is clear of debris and other obstructions.



2. Loosen the locking bolts, using a 28 mm hex or adjustable wrench, and rotate the fixture to access the mounting bracket. Tilting the fixture 90° affords 231 mm (9.1 in) clearance.



3. If mounting holes have been pre-drilled, align the mounting bracket's screw holes with the pre-drilled holes. Mount the fixture bracket using hardware appropriate for the mounting substrate. Use at least two screws to secure each fixture, one on either side of the mounting bracket's central screw hole.



Connect the Fixtures

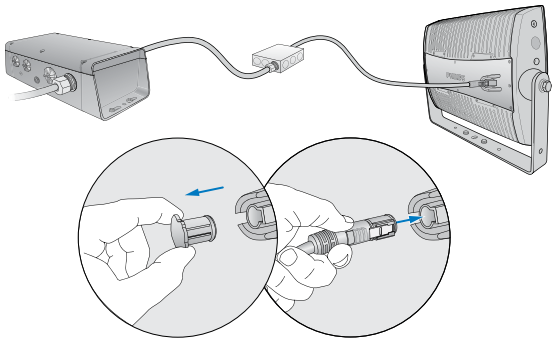
Make sure the power is OFF before connecting ColorReach Powercore gen2 fixtures.

1. Mount junction boxes in accordance with the lighting design plan.
2. If installing fixtures in a series, pull 4-conductor copper wire between each junction box in the series.

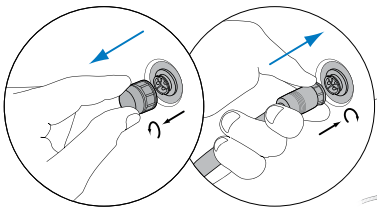
   If installing fixtures in parallel, pull 4-conductor copper wire from a common junction box to each fixture's junction box.

The maximum cable run from a Data Enabler Pro to any individual ColorReach Powercore gen2 fixture is 53 m (175 ft). When installing in parallel, the total cable length cannot exceed 122 m (400 ft).

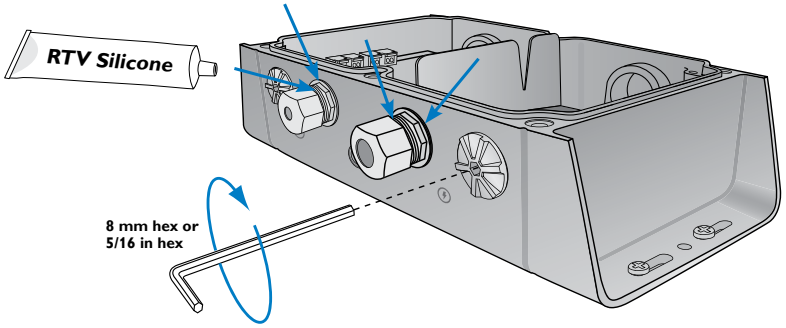
3. If necessary, remove the connector cap from the port on the back of the ColorReach Powercore gen2 housing, and insert the leader cable into the port. For UL / CE fixtures, push the cable until the connector clicks and locks in place. For CQC fixtures, turn the leader cable's lock nut to the right until it locks into place.
4. Use wire nuts to connect line, neutral, ground, and data. If installing in series, connect the leader cable from each fixture to the fixture's junction box. If installing in parallel, connect the leader cable from each fixture to the lead wire from the Data Enabler Pro in the common junction box.
5. Tuck wire connections into the junction box.
6. Seal all junction boxes with electronics-grade RTV silicone sealant. Use gaskets, clamps, and other parts and fittings required to comply with local outdoor wiring codes.



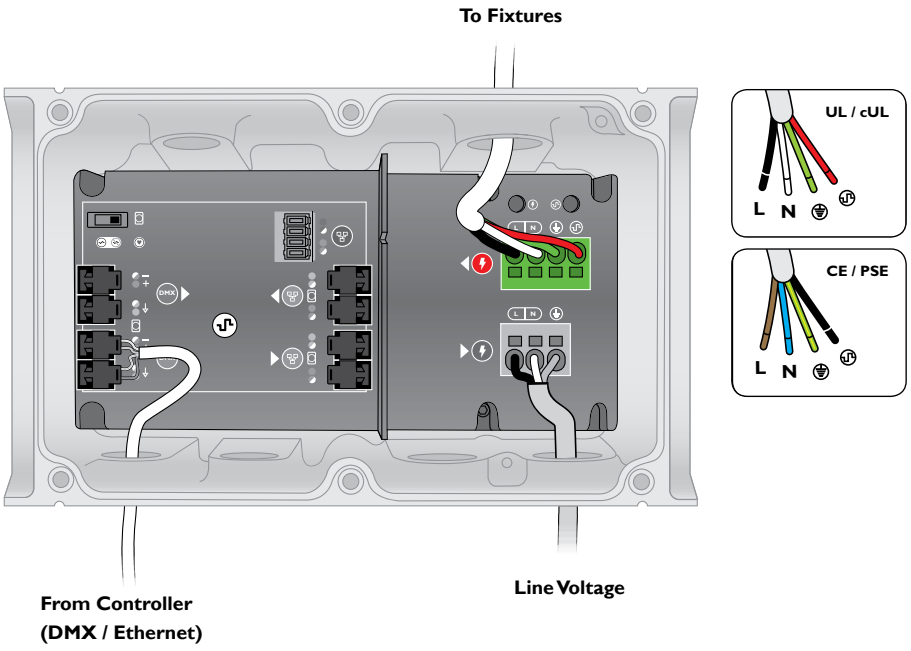
UL / CE (100–277 VAC)



CQC (100–240 VAC)



7. Run the wiring from the first junction box in the series to the Data Enabler Pro, or, if installing in parallel, run the wiring from the common junction box to the Data Enabler Pro. Secure connections within the Data Enabler Pro housing.



8. Secure the Data Enabler Pro cover. Seal the Data Enabler Pro with electronics-grade RTV silicone sealant.

Address and Configure the Fixtures

Make sure the power is ON before addressing and configuring fixtures.

ColorReach Powercore gen2 fixtures use DMX addresses to communicate with controllers. The number of DMX addresses each ColorReach Powercore gen2 fixture requires depends on the fixture's configuration.

ColorReach Powercore gen2 fixtures operate in 8-bit mode by default. You can configure fixtures to operate in 16-bit mode, which increases resolution for smoother dimming and more precise control. You can also configure fixtures to operate in full-fixture mode or half-fixture mode. In full-fixture mode, the top and bottom halves of the fixture work in unison (show the same light output simultaneously). In half-fixture mode, the two halves work independently (can show different light output simultaneously).

In 8-bit mode, fixtures use one DMX address per LED channel (one for red, one for green, and one for blue). In 16-bit mode, fixtures use two DMX addresses per LED channel. The first DMX address corresponds to the "coarse" data for that channel, and the second corresponds to the "fine" data. By using double the number of DMX addresses, 16-bit mode increases fixture resolution from 256 dimming steps to 65,536 (256 x 256) dimming steps.

ColorReach Powercore gen2 fixtures come factory-addressed with a starting DMX address of 1. For lighting designs where fixtures work in unison, all fixtures can be assigned the same starting DMX address. Changes to the default starting DMX addresses are not necessary, but if lights were previously readdressed for use in other installations, you must reset them. For light show designs that show different colors on different fixtures, you must assign unique DMX addresses to your fixtures and sort them in a useful order.

The following table shows the DMX channel assignments for the different possible ColorReach Powercore gen2 configurations, assuming a starting DMX address of 1.

DMX Channel Assignments

8-Bit Mode

Full-Fixture Mode	Top Half / Bottom Half					
	1		2		3	
	Red		Green		Blue	
Half-Fixture Mode	Top Half			Bottom Half		
	1	2	3	4	5	6
	Red	Green	Blue	Red	Green	Blue

16-Bit Mode

Full-Fixture Mode	Top Half / Bottom Half											
	1		2		3		4		5		6	
	Red		Red		Green		Green		Blue		Blue	
Half-Fixture Mode	Top Half						Bottom Half					
	1	2	3	4	5	6	7	8	9	10	11	12
	Red	Red	Green	Green	Blue	Blue	Red	Red	Green	Green	Blue	Blue

You can download QuickPlay Pro from www.philipscolorkinetics.com/support/addressing/

You can switch between full-fixture mode and half-fixture mode, assign unique DMX addresses to fixtures, or set all fixtures to the same starting DMX address using QuickPlay Pro software. Fixtures are identified within QuickPlay Pro by serial number, so you will need the layout grid that you created when you recorded the serial numbers of your fixtures during installation planning.

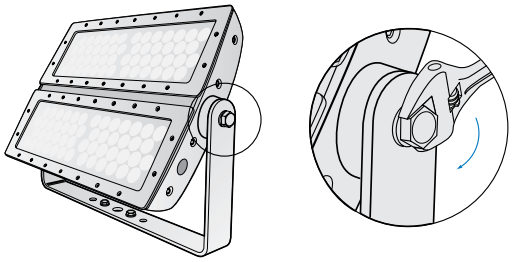
- In Ethernet installations, you can you use QuickPlay Pro with a computer connected directly to a switch within the light system's network. QuickPlay Pro can automatically discover all fixtures, controllers, and Data Enabler Pro devices for quick configuration.
- In DMX installations, you can address and configure fixtures using QuickPlay Pro with iPlayer 3 or SmartJack Pro. You can manually enter fixture serial numbers, or you can import a spreadsheet listing each fixture's serial number and starting DMX address.

For complete details on addressing and configuration, refer to *Addressing and Configuration using QuickPlay Pro* at www.philipscolorkinetics.com/support/addressing.

Aim and Lock the Fixtures

Do not look directly into the fixture when aiming and locking.

1. Aim the fixtures by rotating each fixture to the correct angle.
2. Lock the fixtures by tightening the locking bolts using a 28 mm hex or adjustable wrench.



For exterior applications with direct exposure to water, ColorReach Powercore gen2 fixtures should not be aimed directly upwards, as water may pool on the lens and affect beam quality. Instead, the fixture should be angled to allow for proper water drainage.

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