ColorReach Powercore

Next-generation LED floodlight for signature façades and structures

PHILIPS

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ColorReach™ Powercore, our flagship, high-performance exterior architectural floodlight, is the first LED fixture powerful enough to brilliantly and dynamically illuminate large architectural façades. ColorReach Powercore combines all the benefits of LED-based lighting and control in an elegant fixture specifically designed for large-scale installations, such as commercial skyscrapers, casinos, large retail exteriors, bridges, piers, public monuments, and themed attractions. With significantly more lumen output than any other competitive fixture and unprecedented light projection of over 500 feet, this powerful fixture represents the next generation in exterior illumination. Build-to-order configurations with custom channels of white or color LEDs are also available to support special applications.

- Integrates patented Powercore® technology — Powercore technology rapidly, efficiently, and accurately controls power output to ColorReach Powercore fixtures directly from line voltage. The Philips Data Enabler Pro merges line voltage and control data and delivers them to the fixture over a single standard cable, dramatically simplifying installation and lowering total system cost.
- Unparalleled light output — With an output of over 5,000 lumens, light projection of over 500 feet, and a 5° native beam angle, ColorReach Powercore is the first fixture to offer legitimate 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 ship with spread lenses for easy user installation.
- Saturated, cost-effective color output — High-performance LEDs offer rich, saturated color output 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 standard wrench.
- Universal power input range — ColorBurst Powercore accepts a universal power input range of 100 – 240 VAC, allowing long fixture runs and consistent installation in any location around the world. Each Data Enabler Pro can support multiple ColorReach Powercore fixtures for illuminating even the largest exterior façades and structures.
- Industry-leading controls — ColorReach Powercore works seamlessly with the complete line of Philips controllers, including Light System Manager, iPlayer® 3, and ColorDial™ Pro, as well as third-party controllers.

Unique split design supports diffuser combinations

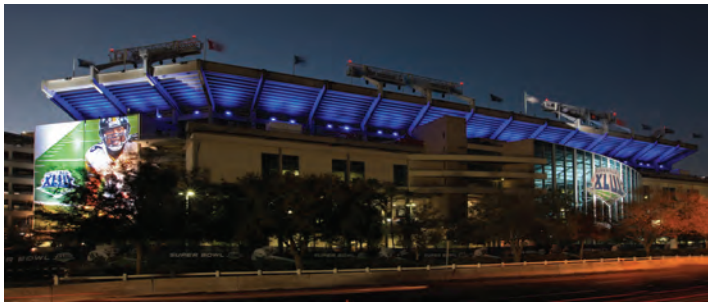
Each half of the fixture is individually addressable and controllable. For instance, you could use one spread lens on the fixture's lower half to bathe a large façade with color at street level, and a different spread lens to project a contrasting or complementary color hundreds of feet up the building's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



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.

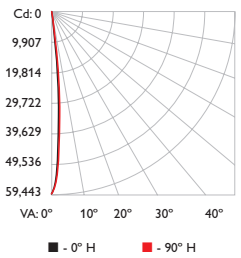
Photometrics

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

ColorReach Powercore No lens, full unit

LED	Lumens	Efficacy
RGB	5211	18.0

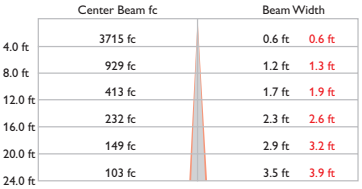
Polar Candela Distribution



	0	22.5	44	67.5	90
0	272404	272404	272404	272404	272404
5	42456	43023	44041	44354	43963
15	1820	1761	1790	1810	1761
25	607	577	577	597	587
35	313	284	303	313	313
45	215	205	196	205	215
55	0	0	0	10	0
65	0	0	0	0	0
75	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0

90° 80° 70° 60° 50°

Illuminance at Distance



522 ft (159.1 m)
1 fc maximum distance

Vert. Spread: 8.3°
Horiz. Spread: 9.3°

Zonal Lumen

0-30	2,262.7	92.5%	92.5%
0-40	2,367.6	96.8%	96.7%
0-60	2,445.0	99.9%	99.9%
60-90	2.3	0.1%	0.1%
0-90	2,447.3	100%	100%
90-180	0	0%	0%
0-180	2,447.3	100%	100%

Total Efficiency: 100%

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

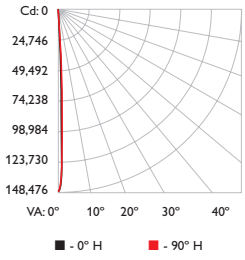
RCC %:	80				70				50			30			10		0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.16	1.14	1.12	1.11	1.13	1.12	1.10	.98	1.08	1.07	1.06	1.04	1.03	1.03	1.01	1.00	1.00	.98
2	1.13	1.10	1.07	1.05	1.11	1.08	1.06	.96	1.05	1.03	1.02	1.02	1.01	.99	1.00	.98	.97	.96
3	1.10	1.06	1.03	1.01	1.08	1.05	1.02	.95	1.02	1.00	.98	1.00	.98	.97	.98	.97	.95	.94
4	1.07	1.03	1.00	.97	1.06	1.02	.99	.93	1.00	.98	.96	.98	.96	.95	.97	.95	.94	.93
5	1.05	1.00	.97	.95	1.04	1.00	.97	.92	.98	.95	.93	.97	.94	.93	.95	.93	.92	.91
6	1.03	.98	.95	.92	1.02	.98	.94	.90	.96	.94	.92	.95	.93	.91	.94	.92	.91	.90
7	1.01	.96	.93	.91	1.00	.96	.93	.89	.95	.92	.90	.94	.91	.90	.93	.91	.89	.88
8	1.00	.94	.91	.89	.99	.94	.91	.88	.93	.90	.89	.92	.90	.88	.92	.90	.88	.87
9	.98	.93	.90	.88	.97	.93	.90	.87	.92	.89	.87	.91	.89	.87	.91	.88	.87	.86
10	.97	.92	.89	.86	.96	.91	.88	.86	.91	.88	.86	.90	.88	.86	.90	.87	.86	.85

RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

ColorReach Powercore No lens, half unit

LED	Lumens	Efficacy
RGB	2622	18.0

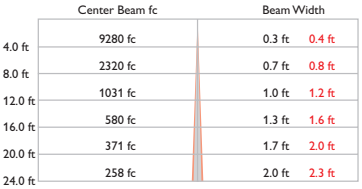
Polar Candela Distribution



	0	22.5	44	67.5	90
0	148476	148476	148476	148476	14847
5	19284	19715	21231	22532	2325
5	902	894	919	935	91
5	309	293	301	309	29
5	138	142	146	154	15
5	98	106	106	110	11
5	0	0	0	0	
5	0	0	0	0	
5	0	0	0	0	
5	0	0	0	0	
0	0	0	0	0	

90° 80° 70° 60° 50°

Illuminance at Distance



385 ft (117.3 m)
1 fc maximum distance

Vert. Spread: 4.8°
Horiz. Spread: 5.6°

Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire
0-30	2,442.8	93.2%	93.2%
0-40	2,542.5	97%	97%
0-60	2,621.9	100%	100%
60-90	0	0%	0%
0-90	2,621.9	100%	100%
90-180	0	0%	0%
0-180	2,621.9	100%	100%

Total Efficiency: 100%

Coefficients Of Utilization - Zonal Cavity Method

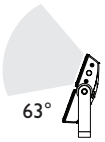
Effective Floor Cavity Reflectance: 20%

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	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.16	1.14	1.13	1.11	1.14	1.12	1.11	.99	1.08	1.07	1.06	1.05	1.04	1.03	1.01	1.01	1.00	.98
2	1.13	1.10	1.08	1.06	1.11	1.09	1.06	.97	1.06	1.04	1.02	1.03	1.01	1.00	1.00	.99	.98	.97
3	1.11	1.07	1.04	1.02	1.09	1.06	1.03	.96	1.03	1.01	.99	1.01	.99	.98	.99	.98	.97	.95
4	1.08	1.04	1.01	.99	1.07	1.03	1.00	.95	1.01	.99	.97	1.00	.98	.96	.98	.96	.95	.94
5	1.06	1.02	.99	.96	1.05	1.01	.98	.93	1.00	.97	.95	.98	.96	.94	.97	.95	.94	.93
6	1.04	1.00	.97	.94	1.03	.99	.96	.92	.98	.95	.94	.97	.95	.93	.96	.94	.93	.92
7	1.03	.98	.95	.93	1.02	.98	.95	.91	.97	.94	.92	.96	.93	.92	.95	.93	.91	.91
8	1.01	.97	.94	.92	1.01	.96	.93	.90	.95	.93	.91	.95	.92	.91	.94	.92	.90	.90
9	1.00	.95	.92	.90	.99	.95	.92	.89	.94	.92	.90	.94	.91	.90	.93	.91	.90	.89
10	.99	.94	.91	.89	.98	.94	.91	.89	.93	.91	.89	.93	.90	.89	.92	.90	.89	.88

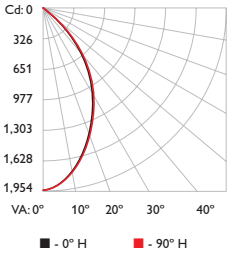
For lux multiply fc by 10.7

ColorReach Powercore 63° Spread Lens

LED	Lumens	Efficacy
RGB	2395	16.4

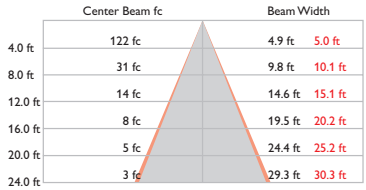


Polar Candela Distribution



	0	22.5	44	67.5	90
0	1954	1954	1954	1954	1954
5	1908	1905	1906	1906	1903
15	1626	1628	1634	1638	1636
25	1242	1246	1257	1267	1269
35	824	831	849	861	864
45	444	451	467	480	484
55	191	194	204	213	216
65	67	71	81	88	89
75	16	18	25	32	31
85	0	0	0	2	3
90	0	0	0	0	0

Illuminance at Distance



44 ft (13.4 m)
1 fc maximum distance

Vert. Spread: 62.7°
Horiz. Spread: 64.5°

Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire
0-30	1,208.9	50.5%	50.5%
0-40	1,736.0	72.5%	72.5%
0-60	2,284.4	95.4%	95.4%
60-90	110.8	4.6%	4.6%
0-90	2,395.2	100%	100%
90-180	0	0%	0%
0-180	2,395.2	100%	100%

Total Efficiency: 100%

Coefficients Of Utilization - Zonal Cavity Method

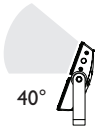
Effective Floor Cavity Reflectance: 20%

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	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.12	1.09	1.06	1.03	1.10	1.07	1.04	.91	1.03	1.00	.98	.99	.97	.95	.95	.94	.93	.91
2	1.05	.99	.94	.90	1.03	.97	.93	.82	.94	.90	.87	.91	.88	.85	.88	.85	.83	.81
3	.98	.90	.84	.79	.96	.89	.83	.74	.86	.81	.77	.84	.80	.76	.81	.78	.75	.73
4	.92	.83	.76	.71	.90	.81	.75	.67	.79	.74	.70	.77	.72	.69	.75	.71	.68	.66
5	.86	.76	.69	.64	.84	.75	.68	.61	.73	.67	.63	.71	.66	.62	.70	.65	.62	.60
6	.81	.70	.63	.58	.79	.69	.63	.56	.68	.62	.57	.66	.61	.57	.65	.60	.56	.55
7	.76	.65	.58	.53	.74	.64	.57	.52	.63	.57	.52	.62	.56	.52	.60	.55	.52	.50
8	.72	.60	.53	.48	.70	.60	.53	.48	.59	.52	.48	.57	.52	.48	.56	.51	.48	.46
9	.68	.56	.49	.45	.66	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.48	.44	.43
10	.64	.53	.46	.42	.63	.52	.46	.41	.51	.45	.41	.50	.45	.41	.50	.45	.41	.40

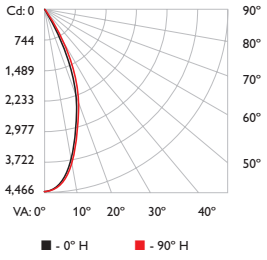
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

ColorReach Powercore 40° Spread Lens

LED	Lumens	Efficacy
RGB	2418	16.6

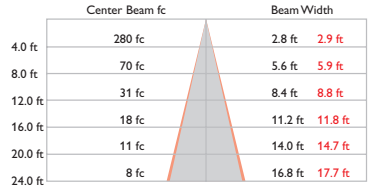


Polar Candela Distribution



	0	22.5	44	67.5	90
0	4466	4466	4466	4466	4466
5	4260	4417	4417	4410	4411
5	2953	2977	3023	3069	3082
5	1361	1390	1438	1477	1493
5	427	441	473	496	503
5	132	137	149	159	163
5	62	64	69	75	76
5	30	32	36	40	41
5	7	9	13	16	16
5	0	0	0	0	1
0	0	0	0	0	0

Illuminance at Distance



67 ft (20.4 m)
1 fc maximum distance

Vert. Spread: 38.6°
Horiz. Spread: 40.4°

Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire
0-30	1,877.1	77.6%	77.6%
0-40	2,183.0	90.3%	90.3%
0-60	2,367.3	97.9%	97.9%
60-90	50.7	2.1%	2.1%
0-90	2,418.0	100%	100%
90-180	0	0%	0%
0-180	2,418.0	100%	100%

Total Efficiency: 100%

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	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.14	1.11	1.09	1.06	1.11	1.09	1.07	.94	1.05	1.03	1.01	1.01	1.00	.98	.98	.97	.96	.94
2	1.08	1.04	1.00	.96	1.06	1.02	.98	.88	.99	.96	.93	.96	.93	.91	.93	.91	.89	.88
3	1.03	.97	.92	.88	1.01	.96	.91	.83	.93	.89	.86	.91	.88	.85	.88	.86	.84	.82
4	.98	.91	.86	.82	.97	.90	.85	.78	.88	.84	.80	.86	.82	.79	.84	.81	.79	.77
5	.94	.86	.80	.76	.92	.85	.80	.74	.83	.79	.75	.82	.78	.75	.80	.77	.74	.73
6	.90	.81	.76	.72	.88	.81	.75	.70	.79	.74	.71	.78	.74	.70	.76	.73	.70	.69
7	.86	.77	.71	.67	.85	.76	.71	.66	.75	.70	.67	.74	.70	.67	.73	.69	.66	.65
8	.82	.73	.68	.64	.81	.73	.67	.63	.72	.67	.63	.71	.66	.63	.70	.66	.63	.62
9	.79	.70	.64	.61	.78	.69	.64	.60	.68	.64	.60	.68	.63	.60	.67	.63	.60	.59
10	.76	.67	.61	.58	.75	.66	.61	.57	.65	.61	.57	.65	.60	.57	.64	.60	.57	.56

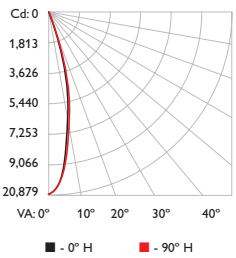
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

For lux multiply fc by 10.7

ColorReach Powercore 23° Spread Lens

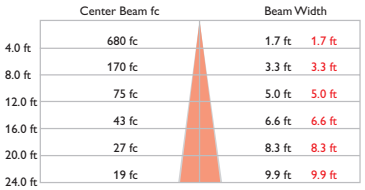
LED	Lumens	Efficacy
RGB	2415	16.6

Polar Candela Distribution



	0	22.5	44	67.5	90
0	10879	10879	10879	10870	10879
5	9526	9526	9526	9526	9526
15	3569	3558	3545	3534	3528
25	719	712	696	685	682
35	190	188	191	194	193
45	88	89	93	99	98
55	45	44	46	52	52
65	19	21	22	26	24
75	5	5	7	10	9
85	0	0	0	0	0
90	0	0	0	0	0

Illuminance at Distance



105 ft (32 m)
1 fc maximum distance

Vert. Spread: 23.4°
Horiz. Spread: 23.3°

Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire
0-30	2,142.3	88.7%	88.7%
0-40	2,268.3	93.9%	93.9%
0-60	2,385.2	98.8%	98.8%
60-90	29.9	1.2%	1.2%
0-90	2,415.1	100%	100%
90-180	0	0%	0%
0-180	2,415.1	100%	100%

Total Efficiency: 100%

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

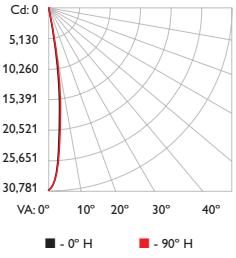
RCC %:	80				70				50			30			10		0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.15	1.12	1.10	1.08	1.12	1.10	1.08	.96	1.06	1.05	1.03	1.03	1.01	1.00	.99	.98	.97	.96
2	1.10	1.06	1.03	1.00	1.08	1.05	1.02	.92	1.02	.99	.97	.99	.97	.95	.96	.95	.93	.92
3	1.06	1.01	.97	.94	1.05	1.00	.96	.89	.97	.94	.92	.95	.93	.91	.93	.91	.89	.88
4	1.03	.97	.93	.89	1.01	.96	.92	.85	.94	.90	.88	.92	.89	.87	.90	.88	.86	.85
5	.99	.93	.88	.85	.98	.92	.88	.82	.90	.87	.84	.89	.86	.83	.87	.85	.83	.81
6	.96	.89	.85	.82	.95	.89	.84	.79	.87	.84	.81	.86	.83	.80	.85	.82	.80	.79
7	.93	.86	.82	.78	.92	.86	.81	.77	.84	.81	.78	.83	.80	.77	.82	.79	.77	.76
8	.90	.83	.79	.76	.89	.83	.79	.75	.82	.78	.75	.81	.77	.75	.80	.77	.75	.74
9	.88	.81	.76	.73	.87	.80	.76	.72	.79	.76	.73	.79	.75	.73	.78	.75	.73	.72
10	.85	.78	.74	.71	.85	.78	.74	.70	.77	.73	.71	.76	.73	.71	.76	.73	.70	.69

RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

ColorReach™ Powercore 13° Spread Lens

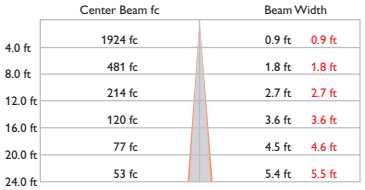
LED	Lumens	Efficacy
RGB	2423	16.6

Polar Candela Distribution



	0	22.5	44	67.5	90
0	30781	30781	30781	30781	30781
5	19971	20008	20112	20143	20154
15	1764	1759	1758	1751	1739
25	346	341	349	351	346
35	154	150	162	170	168
45	82	80	85	98	98
55	27	28	27	32	31
65	10	10	11	12	12
75	4	4	4	5	4
85	0	0	0	1	0
90	0	0	0	0	0

Illuminance at Distance



175 ft (53.3 m)
1 fc maximum distance

Vert. Spread: 12.9°
Horiz. Spread: 13.0°

Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire
0-30	2,207.5	91.1%	91.1%
0-40	2,311.1	95.4%	95.4%
0-60	2,407.0	99.3%	99.3%
60-90	16.4	0.7%	0.7%
0-90	2,423.5	100%	100%
90-180	0	0%	0%
0-180	2,423.5	100%	100%

Total Efficiency: 100%

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	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.15	1.13	1.12	1.10	1.13	1.11	1.10	.98	1.07	1.06	1.05	1.04	1.03	1.02	1.00	1.00	.99	.97
2	1.12	1.09	1.06	1.04	1.10	1.07	1.05	.95	1.04	1.02	1.00	1.01	1.00	.98	.98	.97	.96	.95
3	1.09	1.05	1.01	.99	1.07	1.03	1.00	.93	1.01	.99	.97	.99	.97	.95	.97	.95	.94	.92
4	1.06	1.01	.98	.95	1.05	1.00	.97	.91	.98	.96	.93	.97	.94	.92	.95	.93	.91	.90
5	1.04	.98	.95	.92	1.02	.98	.94	.89	.96	.93	.91	.95	.92	.90	.93	.91	.89	.88
6	1.01	.96	.92	.89	1.00	.95	.92	.87	.94	.91	.89	.93	.90	.88	.92	.89	.88	.87
7	.99	.94	.90	.87	.98	.93	.90	.86	.92	.89	.87	.91	.88	.86	.90	.88	.86	.85
8	.97	.91	.88	.85	.96	.91	.88	.84	.90	.87	.85	.89	.87	.85	.89	.86	.84	.84
9	.95	.90	.86	.84	.95	.89	.86	.83	.89	.86	.84	.88	.85	.83	.87	.85	.83	.82
10	.94	.88	.85	.82	.93	.88	.85	.82	.87	.84	.82	.87	.84	.82	.86	.84	.82	.81

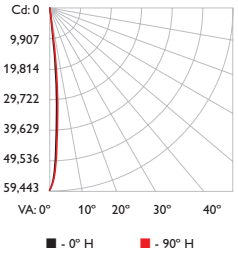
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

For lux multiply fc by 10.7

ColorReach Powercore 8° Spread Lens

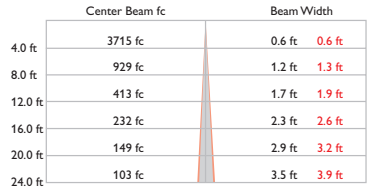
LED	Lumens	Efficacy
RGB	2447	16.8

Polar Candela Distribution



	0	22.5	44	67.5	90
0	59443	59443	59443	59443	59443
5	22090	22541	24016	25835	26608
15	1130	1130	1182	1252	1270
25	324	315	326	337	328
35	153	149	169	180	175
45	74	70	77	94	88
55	9	9	15	15	13
65	0	0	4	0	0
75	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0

Illuminance at Distance



244 ft (74.4 m)
1 fc maximum distance

Vert. Spread: 8.3°
Horiz. Spread: 9.3°

Zonal Lumen

0-30	2,262.7	92.5%	92.5%
0-40	2,367.6	96.8%	96.7%
0-60	2,445.0	99.9%	99.9%
60-90	2.3	0.1%	0.1%
0-90	2,447.3	100%	100%
90-180	0	0%	0%
0-180	2,447.3	100%	100%

Total Efficiency: 100%

Coefficients Of Utilization - Zonal Cavity Method

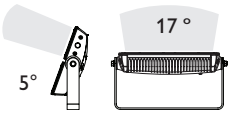
Effective Floor Cavity Reflectance: 20%

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	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.16	1.14	1.12	1.11	1.13	1.12	1.10	.98	1.08	1.07	1.06	1.04	1.03	1.03	1.01	1.00	1.00	.98
2	1.13	1.10	1.07	1.05	1.11	1.08	1.06	.96	1.05	1.03	1.02	1.02	1.01	.99	1.00	.98	.97	.96
3	1.10	1.06	1.03	1.01	1.08	1.05	1.02	.95	1.02	1.00	.98	1.00	.98	.97	.98	.97	.95	.94
4	1.07	1.03	1.00	.97	1.06	1.02	.99	.93	1.00	.98	.96	.98	.96	.95	.97	.95	.94	.93
5	1.05	1.00	.97	.95	1.04	1.00	.97	.92	.98	.95	.93	.97	.94	.93	.95	.93	.92	.91
6	1.03	.98	.95	.92	1.02	.98	.94	.90	.96	.94	.92	.95	.93	.91	.94	.92	.91	.90
7	1.01	.96	.93	.91	1.00	.96	.93	.89	.95	.92	.90	.94	.91	.90	.93	.91	.89	.88
8	1.00	.94	.91	.89	.99	.94	.91	.88	.93	.90	.89	.92	.90	.88	.92	.90	.88	.87
9	.98	.93	.90	.88	.97	.93	.90	.87	.92	.89	.87	.91	.89	.87	.91	.88	.87	.86
10	.97	.92	.89	.86	.96	.91	.88	.86	.91	.88	.86	.90	.88	.86	.90	.87	.86	.85

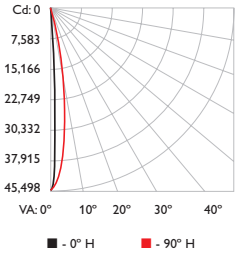
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

ColorReach Powercore 5° x 17° Asymmetric Spread Lens

LED	Lumens	Efficacy
RGB	2474	17.0

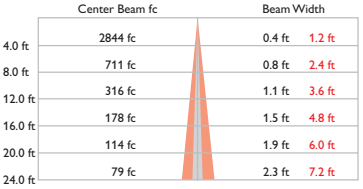


Polar Candela Distribution



	0	22.5	44	67.5	90
0	45498	45498	45498	45498	45498
5	10048	10048	10048	10048	10048
15	837	919	1189	2479	6249
25	294	304	343	429	672
35	156	142	162	186	215
45	69	79	84	105	111
55	7	16	26	46	54
65	2	7	10	20	20
75	0	2	2	5	5
85	0	0	1	1	0
90	0	0	0	0	0

Illuminance at Distance



213 ft (64.9 m)
1 fc maximum distance

Vert. Spread: 5.4°
Horiz. Spread: 17.0°

Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire
0-30	2,254.4	91.1%	91.1%
0-40	2,361.8	95.5%	95.5%
0-60	2,458.4	99.4%	99.4%
60-90	15.5	0.6%	0.6%
0-90	2,473.9	100%	100%
90-180	0	0%	0%
0-180	2,473.9	100%	100%

Total Efficiency: 100%

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	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.15	1.13	1.12	1.10	1.13	1.11	1.10	.98	1.07	1.06	1.05	1.04	1.03	1.02	1.00	1.00	.99	.97
2	1.12	1.09	1.06	1.03	1.10	1.07	1.04	.95	1.04	1.02	1.00	1.01	.99	.98	.98	.97	.96	.95
3	1.09	1.04	1.01	.98	1.07	1.03	1.00	.93	1.01	.98	.96	.98	.96	.95	.96	.95	.93	.92
4	1.06	1.01	.97	.95	1.04	1.00	.97	.91	.98	.95	.93	.96	.94	.92	.95	.93	.91	.90
5	1.03	.98	.94	.92	1.02	.97	.94	.89	.96	.93	.90	.94	.92	.90	.93	.91	.89	.88
6	1.01	.95	.92	.89	1.00	.95	.91	.87	.93	.90	.88	.92	.90	.88	.91	.89	.87	.86
7	.99	.93	.89	.87	.98	.92	.89	.85	.91	.88	.86	.90	.88	.86	.89	.87	.85	.84
8	.97	.91	.87	.85	.96	.90	.87	.84	.90	.87	.84	.89	.86	.84	.88	.86	.84	.83
9	.95	.89	.86	.83	.94	.89	.85	.82	.88	.85	.83	.87	.84	.83	.87	.84	.82	.81
10	.93	.87	.84	.82	.92	.87	.84	.81	.86	.83	.81	.86	.83	.81	.85	.83	.81	.80

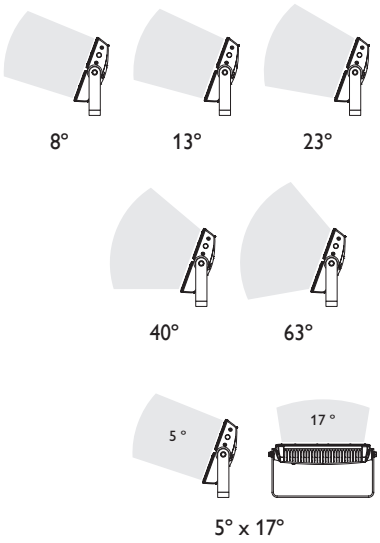
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

For lux multiply fc by 10.7

Specifications

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

Item	Specification	Details
Output	Beam Angle	8°, 13°, 23°, 40°, and 63° spread lenses 5° x 17° asymmetric spread lens
	Lumens*	5,211 (full unit, no spread lens)
	LED Channels	Red / Green / Blue
	Mixing Distance	50 ft (15.2 m) to uniform light
Electrical	Input Voltage	100 – 240 VAC, auto-switching, 50 / 60 Hz via Data Enabler Pro
	Power Consumption	290 W maximum at full output, steady state
Control	Interface	Data Enabler Pro (DMX / Ethernet) Fixture firmware addressable 8- or 16-bit control
	Control System	Philips 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†	5 @ 100 VAC 6 @ 120 VAC 11 @ 220 VAC 12 @ 240 VAC *Configuration:* *20 A circuit, standard 6 ft (1.8 m) Leader Cables, 5 ft (1.5 m) jumper cables*
Certification and Safety	Certification	UL / cUL, FCC Class A, CE, PSE
	Environment	Dry / Damp / Wet Location, IP66



To calculate the number of fixtures your specific installation can support, download the Configuration Calculator from www.colorkinetics.com/support/install_tool/

* Lumen measurement complies with IES LM-79-08 testing procedures
† These figures, provided as a guideline, are accurate for this configuration only. Changing the configuration can affect the fixture run lengths.

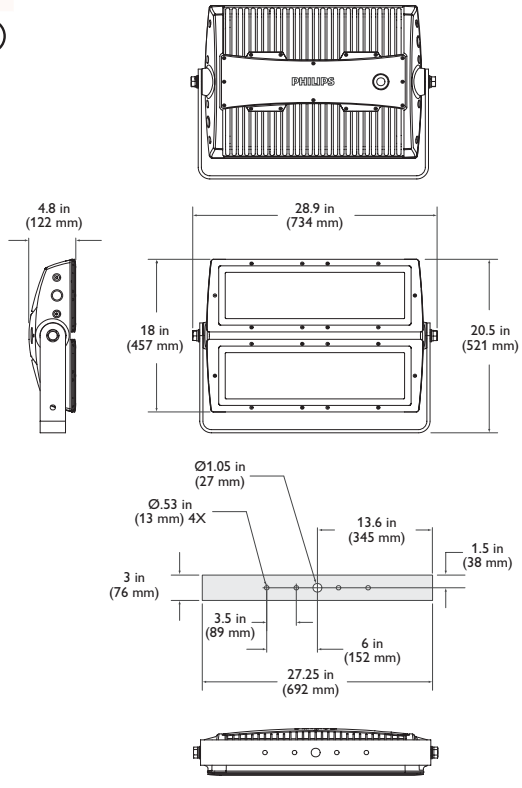
CHROMACORE® CK TECHNOLOGY | OPTIBIN® CK TECHNOLOGY | POWERCORE® CK TECHNOLOGY

Lumen Maintenance

Lumen maintenance values are based on measurements that comply with IES LM-80-08 testing procedures. See www.colorkinetics.com/support/appnotes/lm-80-08.pdf for more information.

Ambient Temps.	L_{70}*	L_{50}†
1 RGB Channel Full On		
@ 25° C	100,000 hours	100,000+ hours
@ 50° C	90,000 hours	100,000+ hours
2 RGB Channels Full On		
@ 25° C	90,000 hours	100,000+ hours
@ 50° C	70,000 hours	90,000 hours
3 RGB Channels Full On		
@ 25° C	70,000 hours	90,000 hours
@ 50° C	45,000 hours	68,000 hours

* L_{70} = 70% maintenance of lumen output (when light output drops below 70% of initial output).
† L_{50} = 50% maintenance of lumen output (when light output drops below 50% of initial output).



Fixture and Accessories

ColorReach Powercore 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 6 ft (1.8 m) leader cable to connect each ColorReach Powercore fixture to a junction box or Data Enabler Pro.
- 4-conductor copper wire to connect ColorReach Powercore fixtures in series or in parallel. Standard 12 AWG (2.05 mm) stranded wire is recommended

Item	Type	Item Number	Philips 12NC
ColorReach Powercore *Includes 6 ft (1.8 m) leader cable*	UL / cUL and CE / PSE	123-000013-00	910503700451
Replacement Leader Cable 6 ft (1.8 m)	UL / cUL	108-000043-02	~~910503700453~~
	CE / PSE	108-000043-03	910503700454
ColorReach Powercore Spread Lens with bezel	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
	8°	120-000068-05	910503700511
Data Enabler Pro	3/4 in / 1/2 in NPT (US trade size conduit)	106-000004-00	~~910503701210~~
	PG21 / PG13 (metric size conduit)	106-000004-01	910503701211

Use Item Number when ordering in North America.

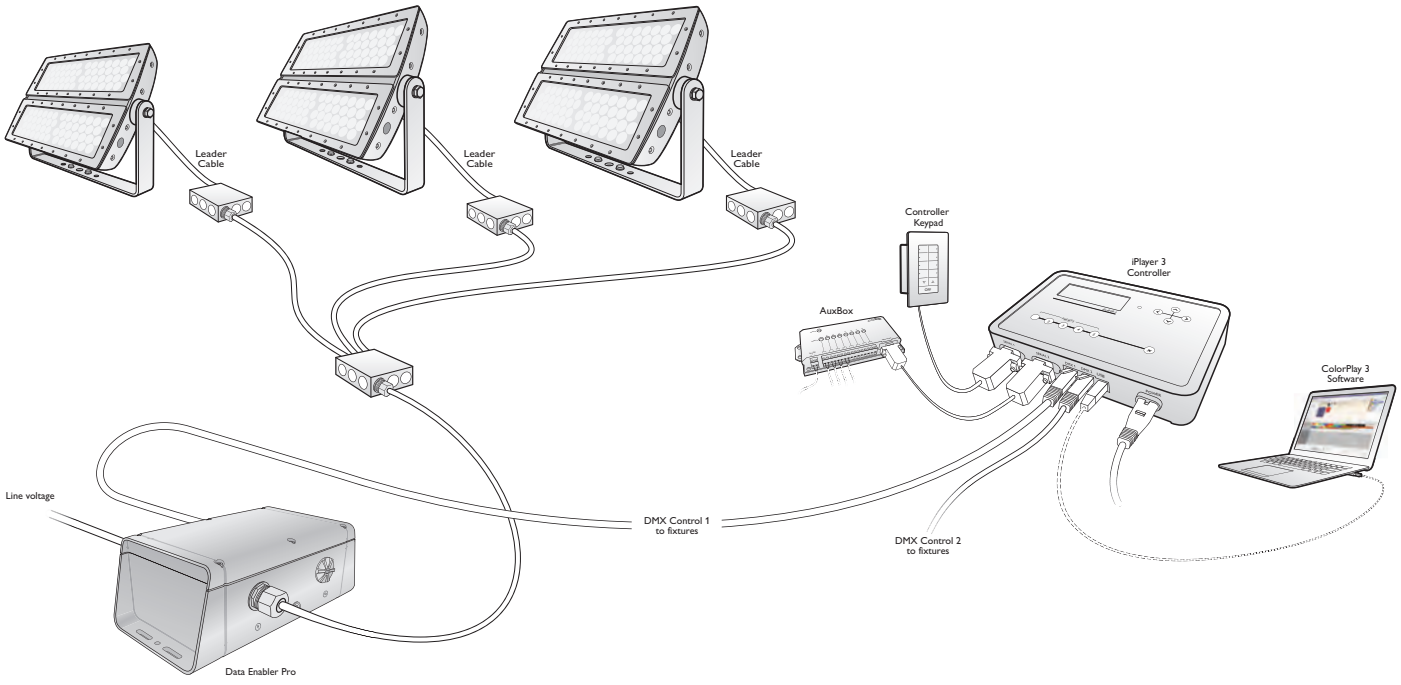
Build-to-Order Configurations

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

Component	Available Non-Standard Options
Color Temperature	2700K, 3000 K, 3500 K, 4000 K, 5000 K, 5500 K, 6000 K, 6500 K
Color	Royal Blue, Blue, Green, Amber, Red

Typical ColorReach Powercore installation

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



Installation

ColorReach Powercore, a high-performance exterior architectural floodlight with light projection of over 500 feet, is designed to brilliantly and dynamically illuminate prominent, signature façades. Because each ColorReach Powercore fixture weighs 75 lb (34 kg), 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

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate ColorReach Powercore 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.

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

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.

   ColorReach Powercore 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), As an example, the table to the right lists the maximum number of fixtures each Data Enabler Pro can support at various voltages, assuming a 20A circuit, standard 6 ft (1.8 m) Leader Cables, and 5 ft (1.5 m) jumper cables between fixtures. Keep in mind that these figures, provided as a guideline, are accurate for the specified configuration only. Changing the configuration can affect the fixture run lengths.

   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 175 feet (53.3 m), and the total cable length per Data Enabler Pro should not exceed 400 feet (122 m).

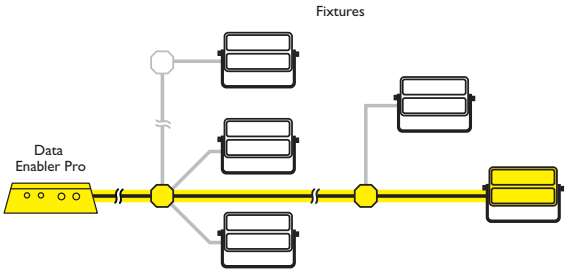
To streamline the configuration of complex installations, record the serial number (DMX) or IP address (Ethernet) and location of each Data Enabler Pro..

Fixture run lengths

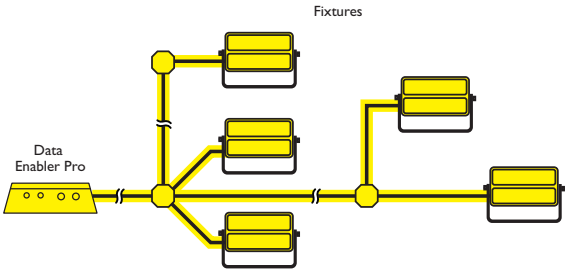
5 @ 100 VAC
6 @ 120 VAC
11 @ 220 VAC
12 @ 240 VAC

assuming fixtures installed on a 20 A circuit, using standard 6 ft (1.8 m) Leader Cables and 5 ft (1.5 m) jumper cables

For more information, and for help calculating the number of fixtures your specific installation can support, download the Configuration Calculator from www.colorkinetics.com/support/install_tool/, or consult Application Engineering Services at support@colorkinetics.com.

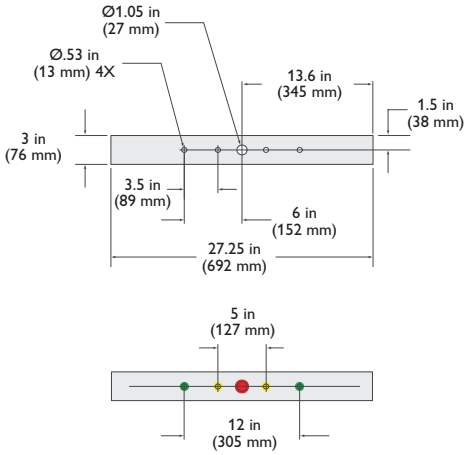


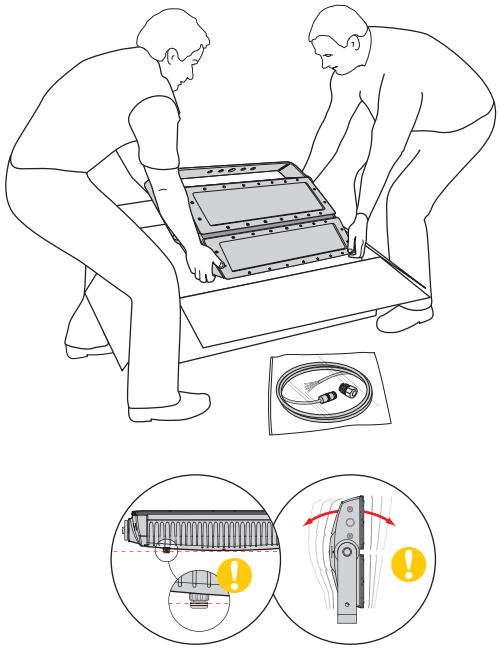
Data Integrity – maximum individual length 175 ft (53.3 m)



Data Integrity – total length 400 ft (122 m)

Mounting bracket dimensions for pre-drilling





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

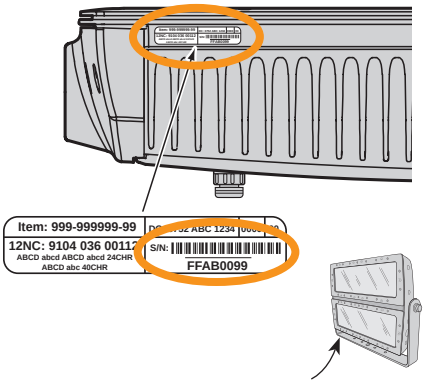
2. Ensure that the fixture mounting locations and substrates are sufficiently sturdy to bear the weight of each ColorReach Powercore fixture. Pre-drill holes in the mounting substrate if necessary, making reference to the mounting bracket dimensions. Use at least two screws to secure each fixture, one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

   If mounting ColorReach Powercore 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.

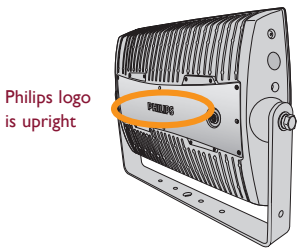
Position and Mount Fixtures

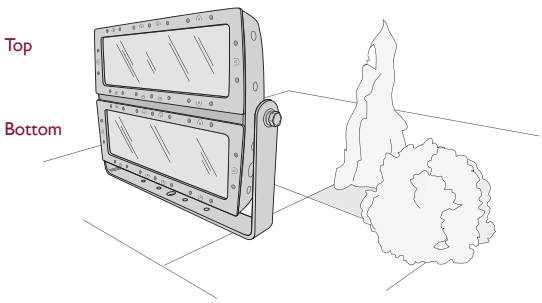
1. Unpack ColorReach Powercore fixtures. Because each ColorReach Powercore fixture weighs 75 lb (34 kg), you may need two people to lift the fixture out of the box and position it in the mounting location.
2. Each ColorReach Powercore fixture comes pre-programmed with a unique serial number. As you unpack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



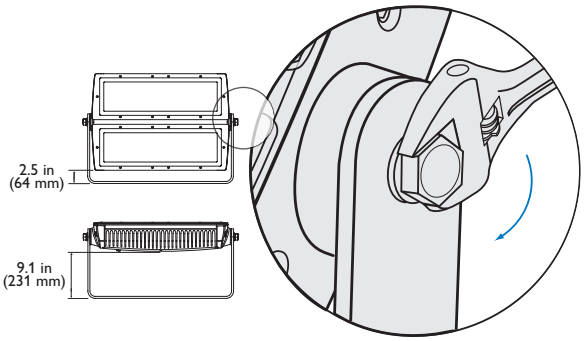
3. Assign each fixture to a position in the lighting design plan.
4. To streamline installation and aid in light show programming, you can affix a weatherproof label identifying the order or placement in the installation to an inconspicuous location on each light fixture's housing.

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

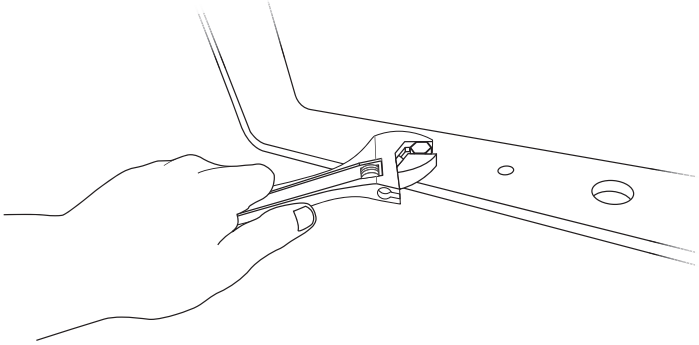




6. Loosen the locking bolts, using a 28 mm hex or adjustable wrench, and rotate the fixture to access the mounting bracket. Tilting the fixture 90° affords 9.1 in (231 mm) clearance.

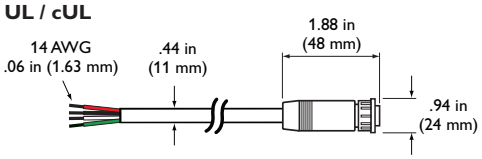


7. If mounting holes have been pre-drilled, align the mounting bracket's screw holes with the pre-drilled holes. Mount the fixture bracket using hardware appropriate for the mounting substrate. Use at least two screws to secure each fixture, one on either side of the mounting bracket's central screw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

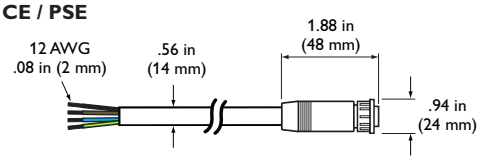


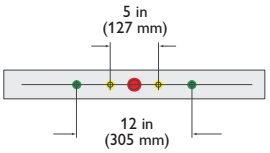
Leader Cable connector dimensions

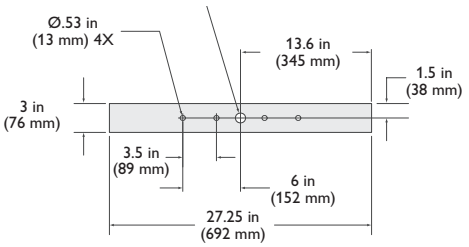
UL / cUL



CE / PSE





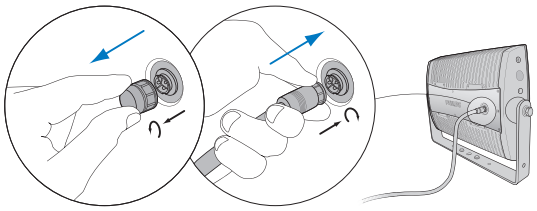


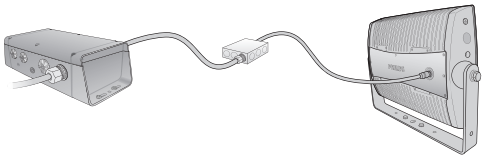
Connect the Fixtures

Make sure the power is OFF before connecting ColorReach Powercore 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.

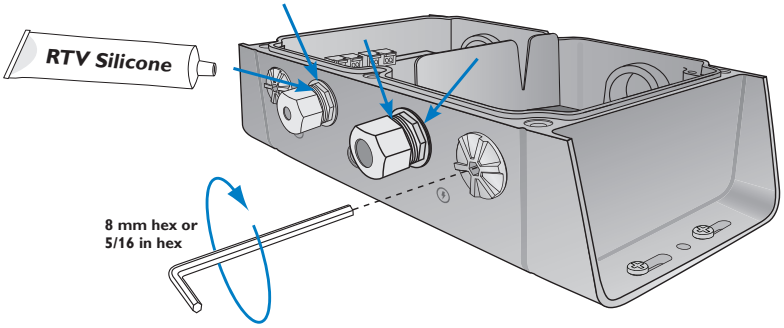
   If installing fixtures in parallel, pull 4-conductor copper wire from a common junction box to each fixture's junction box.





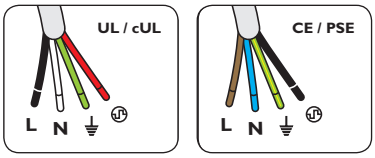
The maximum cable run from a Data Enabler Pro to any individual ColorReach Powercore fixture is 175 feet (53 m). When installing in parallel, the total cable length cannot exceed 400 feet (122 m).

3. If necessary, remove the connector cap from the port on the back of the ColorReach Powercore housing. Insert the leader cable into the port. 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.

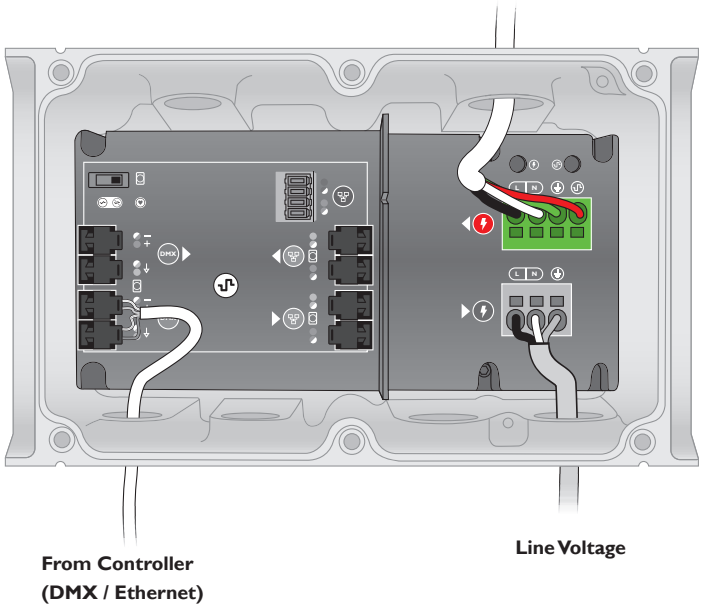


Refer to the Data Enabler Pro Product Guide for complete installation and operation details.

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.

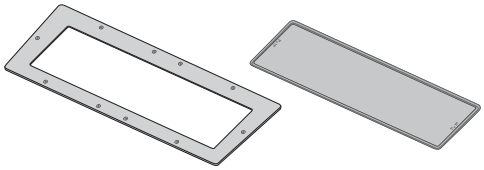


L	Line Voltage Tension de secteur Netzspannung Tensión de línea Tensione di linea Netspanning 線間電圧 线路电压	⏚	Ground Terre Masse Toma de tierra Terra Aarde アース 接地
N	Neutral Neutral Neutro Neutro Neutraal 中性線 零线	⎍	Data Données Daten Datos Dati Data データ 数据

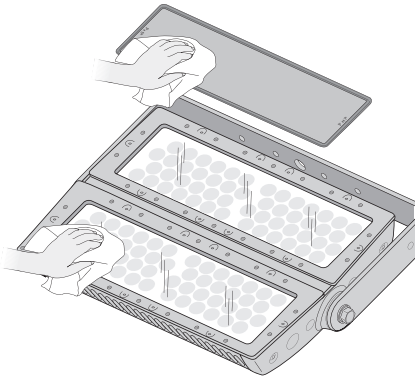


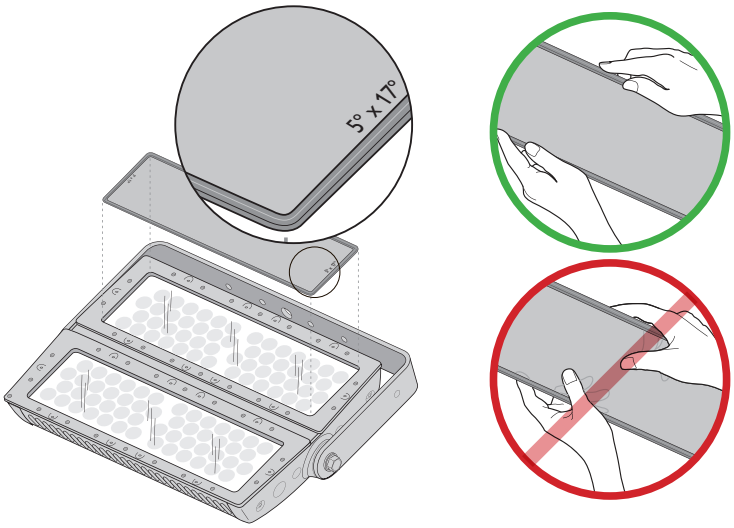
Attach Spread Lenses (Optional)

Exchangeable ColorReach Powercore 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 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.

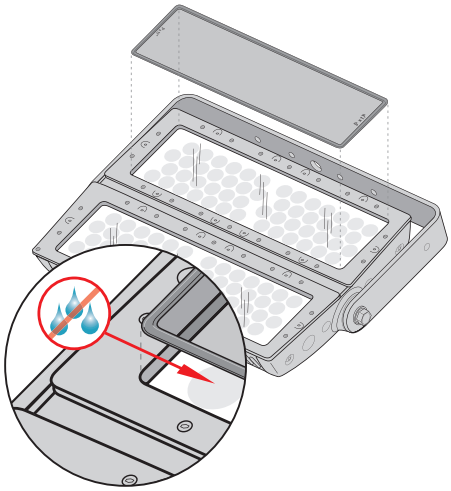


1. Unpack and confirm the contents of the box. Each box contains one lens kit, consisting of a spread lens with attached rubber gasket, and a bezel with 10 captured mounting screws.
2. Clean both sides of the spread lens and the face of the ColorReach Powercore housing, including glass surfaces, using 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.



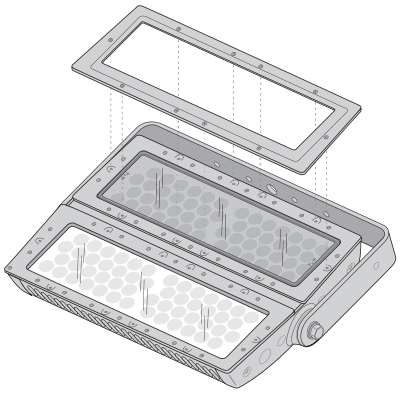


4 Place the spread lens on top of the ColorReach Powercore housing. Make sure that the spread lens and gasket are seated properly within the fixture housing. Also make sure that there is no moisture between the spread lens and the glass lens, as any moisture will compromise the effectiveness of the spread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

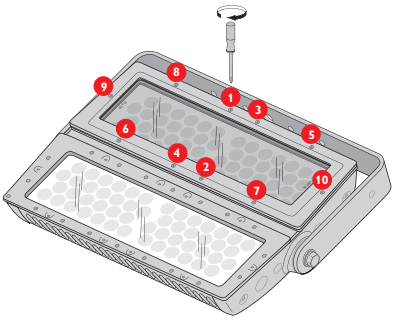


For installation in extreme environments, refer to the Reach Spread Lens Kit Installation Instructions for details on sealing the spread lens and bezel to prohibit water ingress.

5. Position the bezel over the spread lens.



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

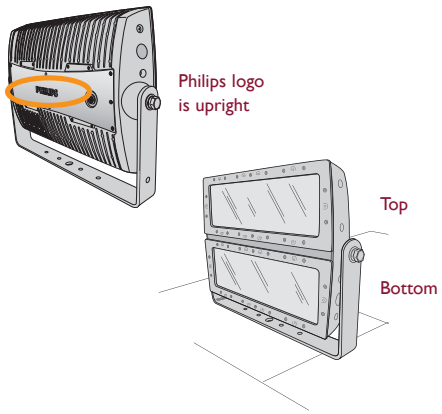


Address and Configure the Fixtures

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

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

ColorReach Powercore 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 3-channel mode or 6-channel mode. In 3-channel mode, the top and bottom halves of the fixture work in unison (show the same light output simultaneously). In 6-channel mode, the two halves work independently (can show different light output simultaneously).



You must use a 16-bit compatible controller to operate fixtures in 16-bit mode.

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 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 configurations, assuming a starting DMX address of 1.

DMX Channel Assignments

8-Bit Mode						
3-Channel Mode	Top Half / Bottom Half					
	1		2		3	
	Red		Green		Blue	
6-Channel Mode	Top Half			Bottom Half		
	1	2	3	4	5	6
	Red	Green	Blue	Red	Green	Blue

16-Bit Mode												
3-Channel Mode	Top Half / Bottom Half											
	1		2		3		4		5		6	
	Red		Red		Green		Green		Blue		Blue	
6-Channel 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 switch between 3-channel mode and 6-channel 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.

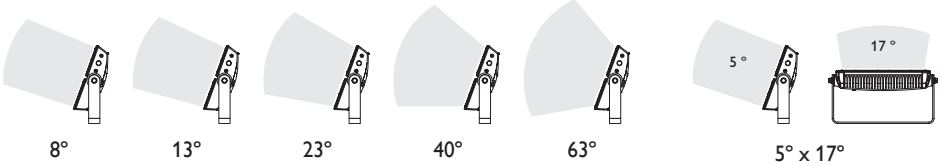
You can download QuickPlay Pro from www.colorkinetics.com/support/addressing/

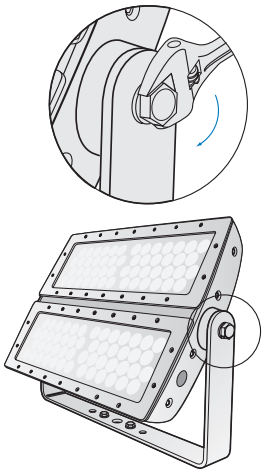
- In Ethernet installations, you can you use QuickPlay Pro with a computer connected directly to a switch within the light system's network. QuickPlay Pro can automatically discover all fixtures, controllers, and Data Enabler Pro devices for quick configuration.
- In DMX installations, you can address 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.colorkinetics.com/support/addressing.

Aim and Lock the Fixtures

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.

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