


# ColorReach Powercore

Premium long-throw exterior LED floodlight with intelligent color light

PHILIPS

COLOR KINETICS

# ColorReach Powercore

## Premium long-throw exterior LED floodlight with intelligent color light

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, bridges, piers, public monuments, and themed attractions. With unprecedented light output and projection, this powerful fixture is the next generation in exterior illumination. Custom configurations with custom channels of white or color LEDs are also available to support special applications.

- Integrates Powercore technology — Powercore technology rapidly, efficiently, and accurately controls power output to ColorReach Powercore 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 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 — 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 — ColorReach Powercore accepts a universal power input range of 100 – 240 VAC, allowing consistent installation in any location around the world.
- Industry-leading controls — ColorReach Powercore works 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.

**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

Photography: Stephen Kovich

Photography: Stephen Kovich

Photography: Stephen Kovich

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.

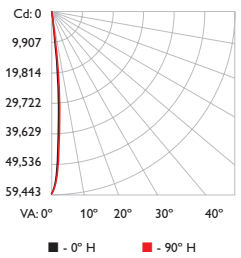
# Photometrics

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

## ColorReach Powercore No lens, full unit

| LED | Lumens | Efficacy |
|---|---|---|
| RGB | 5211 | 18.0 |

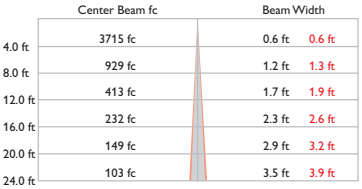

### Polar Candela Distribution




| | 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%

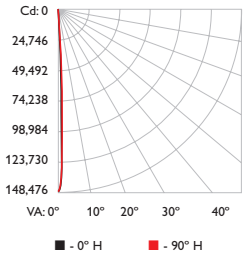
| RCC %: | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW %: | 70 | 50 | 30 | 0 | 70 | 50 | 30 | 0 | 50 | 30 | 20 | 50 | 30 | 20 | 50 | 30 | 20 | 0 |
| RCR: 0 | 1.19 | 1.19 | 1.19 | 1.19 | 1.16 | 1.16 | 1.16 | 1.00 | 1.11 | 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 |

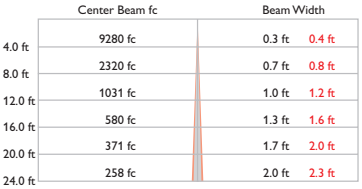

### Polar Candela Distribution




| | 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

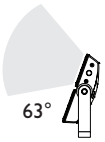
Effective Floor Cavity Reflectance: 20%

| 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 |

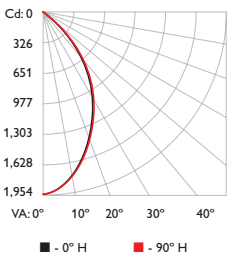
For lux multiply fc by 10.7

## ColorReach Powercore 63° Spread Lens

| LED | Lumens | Efficacy |
|---|---|---|
| RGB | 2395 | 16.4 |

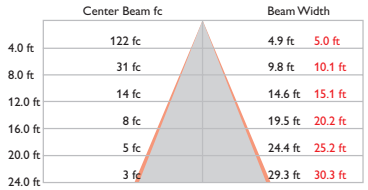



### Polar Candela Distribution




| | 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

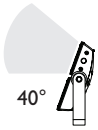
Effective Floor Cavity Reflectance: 20%

| 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 |

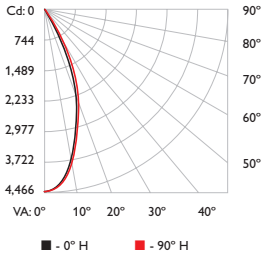
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

## ColorReach Powercore 40° Spread Lens

| LED | Lumens | Efficacy |
|---|---|---|
| RGB | 2418 | 16.6 |

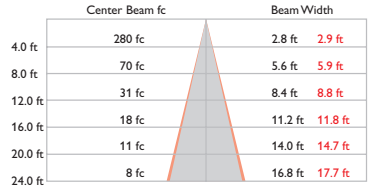



### Polar Candela Distribution




| | 0 | 22.5 | 44 | 67.5 | 90 |
|---|---|---|---|---|---|
| 0 | 4466 | 4466 | 4466 | 4466 | 4466 |
| 5 | 4260 | 4417 | 4417 | 4410 | 4412 |
| 5 | 2953 | 2977 | 3023 | 3069 | 3082 |
| 5 | 1361 | 1390 | 1438 | 1477 | 1493 |
| 5 | 427 | 441 | 473 | 496 | 507 |
| 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 |

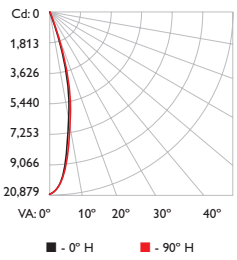
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

For lux multiply fc by 10.7

## ColorReach Powercore 23° Spread Lens

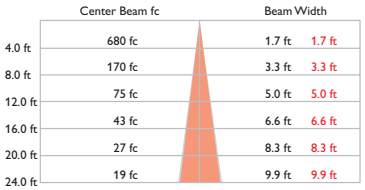
| LED | Lumens | Efficacy |
|---|---|---|
| RGB | 2415 | 16.6 |


### 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

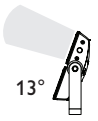
Effective Floor Cavity Reflectance: 20%

| 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 |

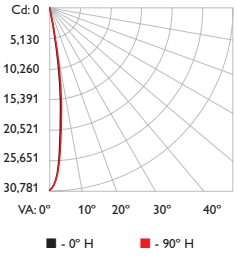
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

## ColorReach™ Powercore 13° Spread Lens

| LED | Lumens | Efficacy |
|---|---|---|
| RGB | 2423 | 16.6 |

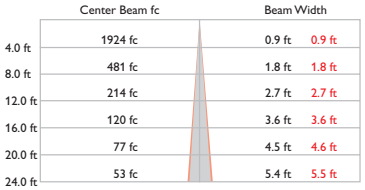



### Polar Candela Distribution




| | 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 |

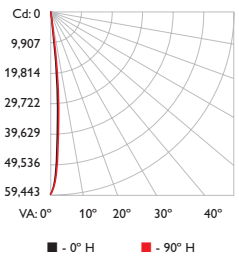
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

For lux multiply fc by 10.7

## ColorReach Powercore 8° Spread Lens

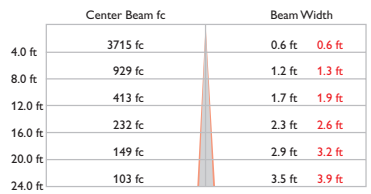
| LED | Lumens | Efficacy |
|---|---|---|
| RGB | 2447 | 16.8 |


### 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

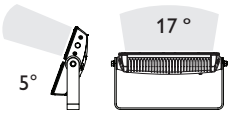
Effective Floor Cavity Reflectance: 20%

| 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 |

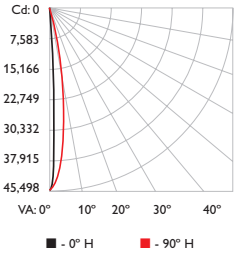
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

## ColorReach Powercore 5° x 17° Asymmetric Spread Lens

| LED | Lumens | Efficacy |
|---|---|---|
| RGB | 2474 | 17.0 |

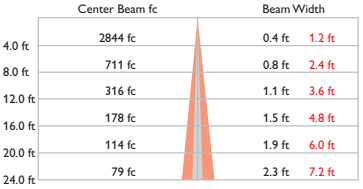



### Polar Candela Distribution




| | 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.

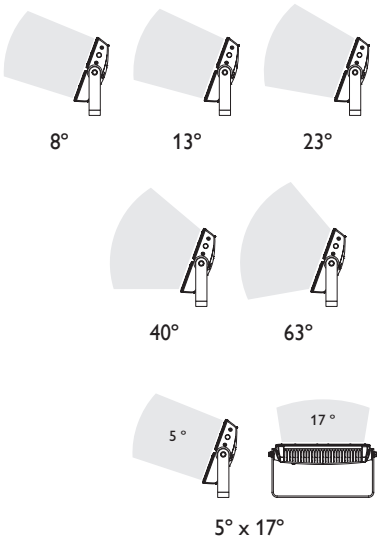
| Item | Specification | Details |
|---|---|---|
| Output | Beam Angle | 8°, 13°, 23°, 40°, and 63° spread lenses<br>5° x 17° asymmetric spread lens |
| | Lumens* | 5,211 (full unit, no spread lens) |
| | LED Channels | Red / Green / Blue |
| | Mixing Distance | 50 ft (15.2 m) to uniform light |
| | Lumen Maintenance† | 90,000 hours $L_{50}$ @ 25° C  68,000 hours $L_{50}$ @ 50° C |
| 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)<br>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<br>*(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,<br>6 ft (1.8 m) unified power / data cable |
| | Temperature Ranges | -40° – 122° F  (-40° – 50° C) Operating<br>-4° – 122° F  (-20° – 50° C) Startup<br>-40° – 176° F (-40° – 80° C) Storage |
| | Humidity | 0 – 95%, non-condensing |
| | Fixture Run Lengths‡ | 5 @ 100 VAC<br>6 @ 120 VAC<br>11 @ 220 VAC<br>12 @ 240 VAC<br>*Configuration:*<br>*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, CQC |
| | Environment | Dry / Damp / Wet Location, IP66 |

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

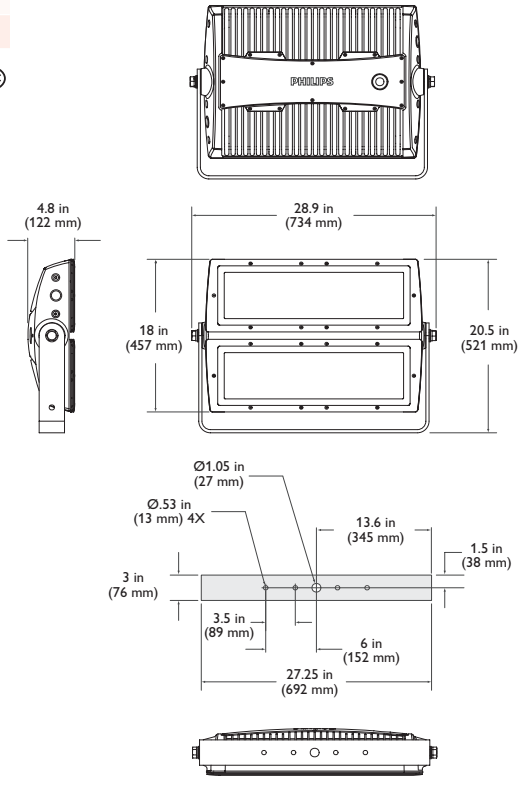
† $L_{50}$ = 50% lumen maintenance (when light output drops below 50% of initial output). Ambient luminaire temperatures specified. Lumen maintenance calculations are based on lifetime prediction graphs supplied by LED source manufacturers. Calculations for white-light LED fixtures are based on measurements that comply with IES LM-80-08 testing procedures. Refer to www.philipscolorkinetics.com/support/appnotes/lm-80-08.pdf for more information.

‡ 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




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



# 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<br>*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 (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.

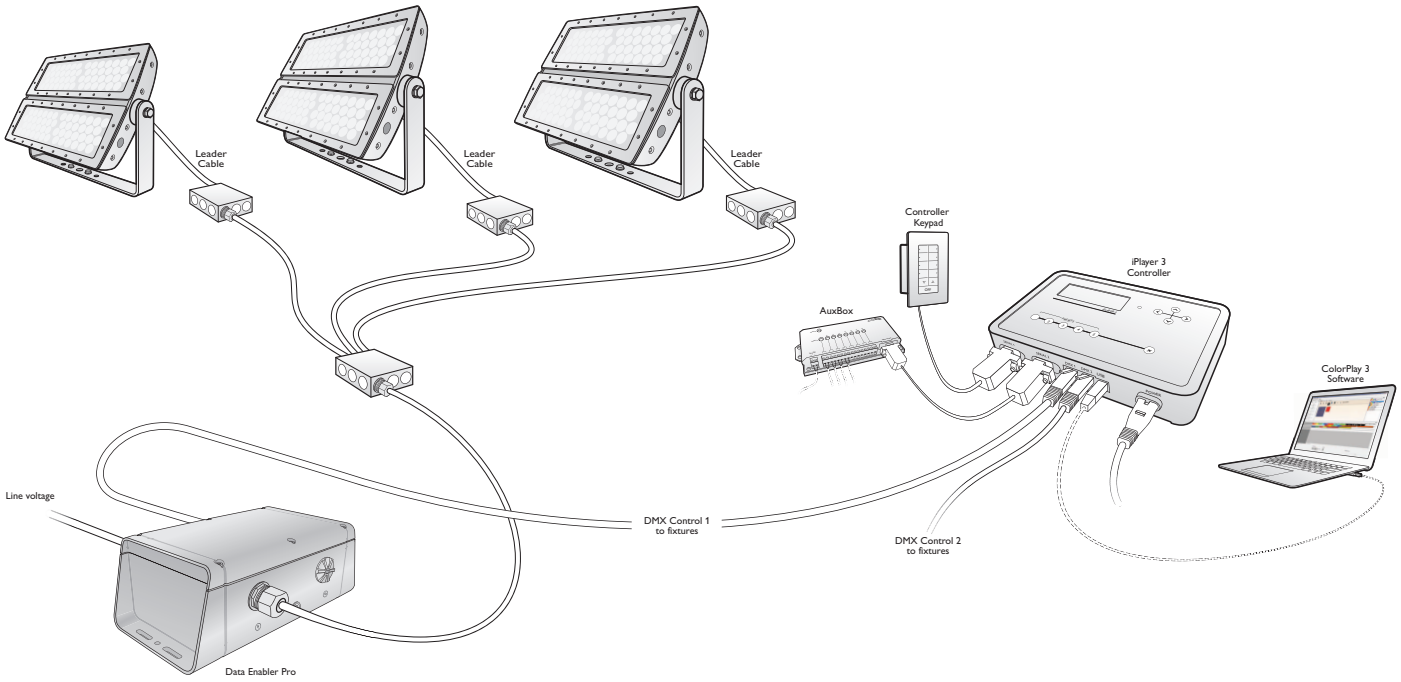
## Custom Configurations

In addition to the standard configurations listed here, custom configurations are also available with non-standard colors or color temperatures. See the ColorReach Powercore 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 |

## Typical ColorReach Powercore installation

For detailed wiring diagrams visit www.philipscolorkinetics.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).

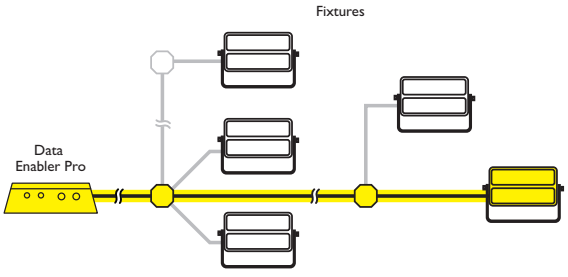
*To streamline the configuration of complex installations, record the serial number (DMX) or IP address (Ethernet) and location of each Data Enabler Pro..*

## Fixture run lengths

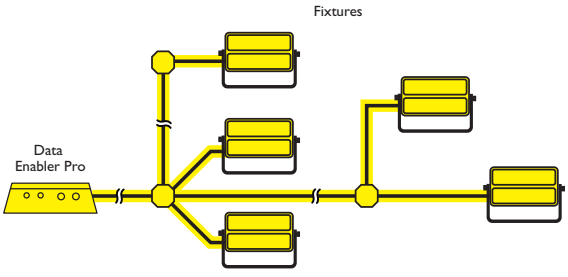
| |
|---|
| 5 @ 100 VAC |
| 6 @ 120 VAC |
| 11 @ 220 VAC |
| 12 @ 240 VAC |

*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.philipscolorkinetics.com/support/install_tool/, or consult Application Engineering Services at support@colorkinetics.com.*

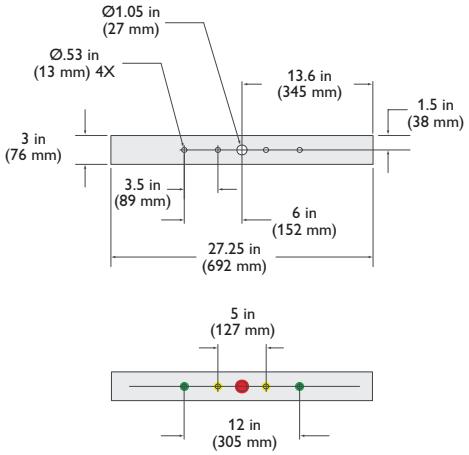



Data Integrity – maximum individual length 175 ft (53.3 m)




Data Integrity – total length 400 ft (122 m)

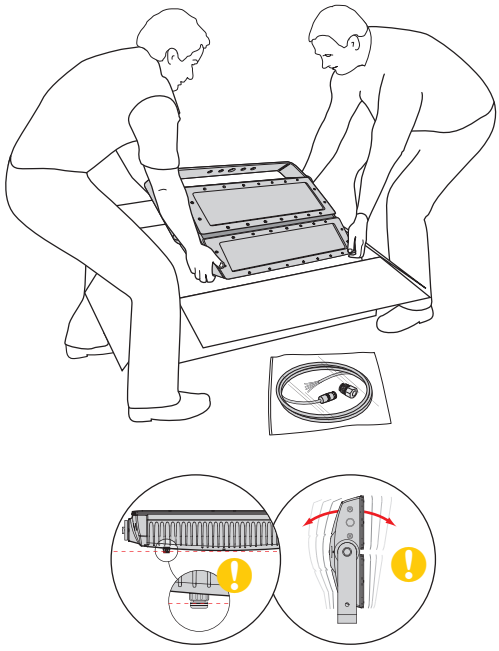
## Mounting bracket dimensions for pre-drilling




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 $m^2$.

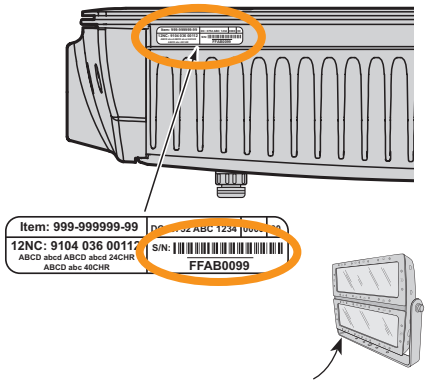
3. Install all Data Enabler Pro devices, including any interfaces with controllers. Data Enabler Pro and external controllers send power and control signals to fixtures over the single leader cable.
4. Verify that all additional supporting equipment (switches, controllers) is in place.
5. Ensure that 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.



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.

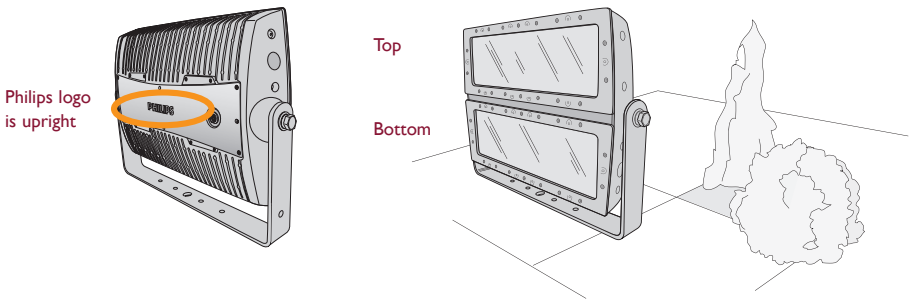
# Position and Mount Fixtures

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.

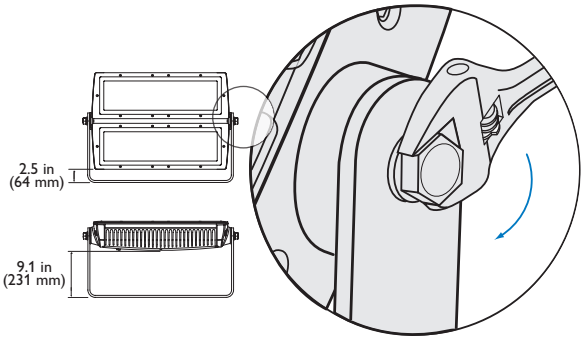



3. Assign each fixture to a position in the lighting design plan.
4. To streamline installation and aid in light show programming, you can affix a weatherproof label identifying the order or placement in the installation to an inconspicuous location on each light fixture's housing.

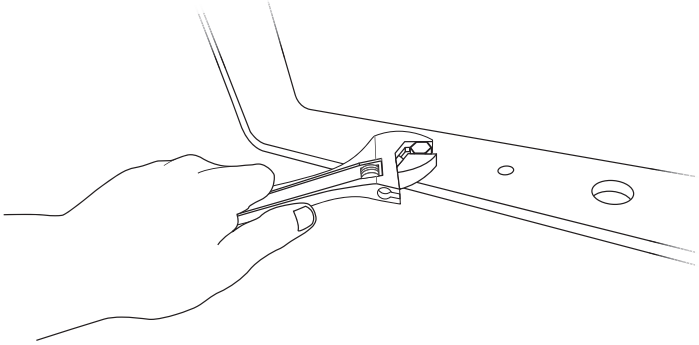
5. Position each ColorReach Powercore fixture in its designated mounting location. Make sure the mounting area is clear of debris and other obstructions.




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.

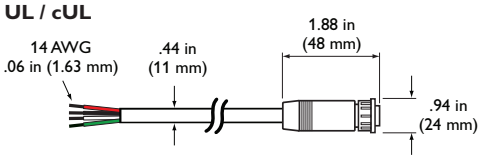



7. If mounting holes have been pre-drilled, align the mounting bracket's screw holes with the pre-drilled holes. Mount the fixture bracket using hardware appropriate for the mounting substrate. Use at least two screws to secure each fixture, one on either side of the mounting bracket's central screw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

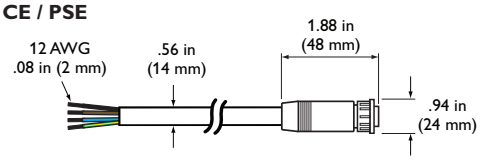


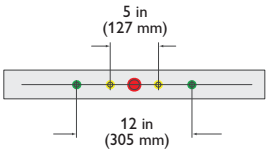
**Leader Cable connector dimensions**

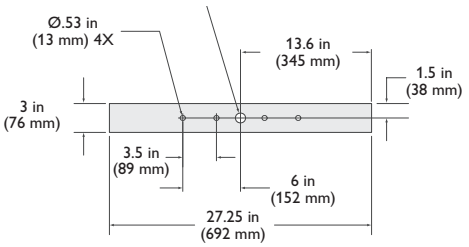
**UL / cUL**




**CE / PSE**



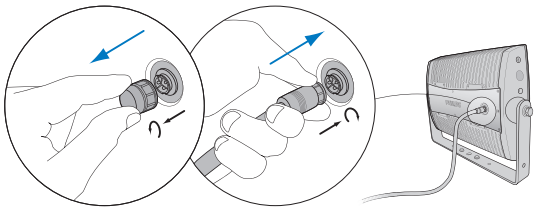



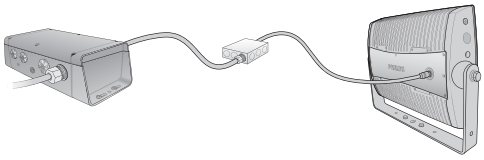

# Connect the Fixtures

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.

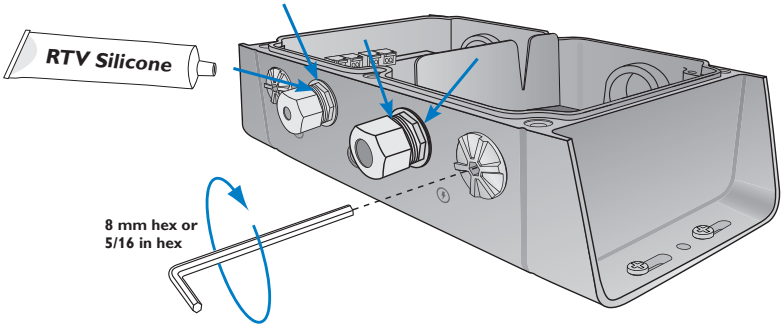
   If installing fixtures in parallel, pull 4-conductor copper wire from a common junction box to each fixture's junction box.





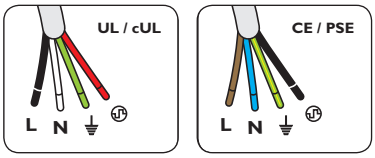
The maximum cable run from a Data Enabler Pro to any individual ColorReach Powercore fixture is 175 feet (53 m). When installing in parallel, the total cable length cannot exceed 400 feet (122 m).

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.

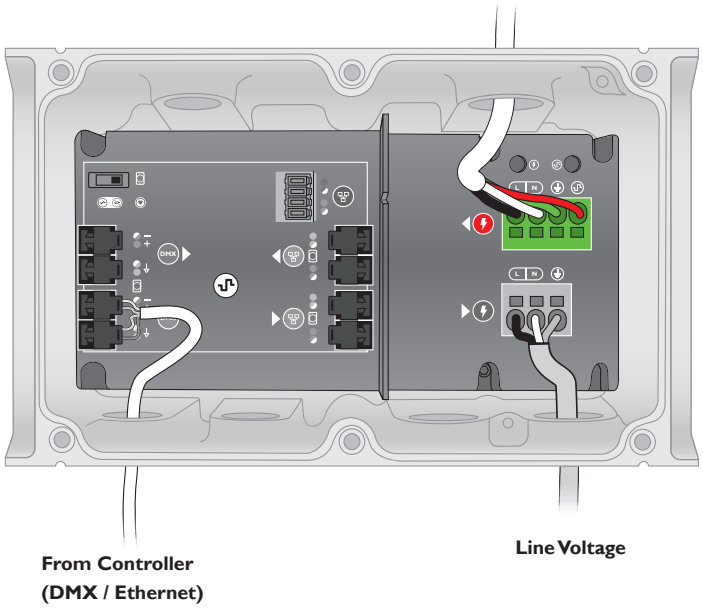



*Refer to the Data Enabler Pro Product Guide for complete installation and operation details.*

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.

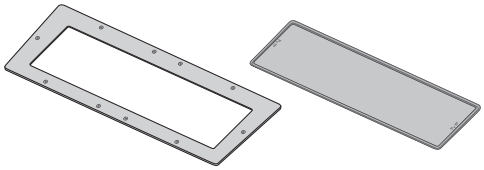



| | | | |
|---|---|---|---|
| L | Line Voltage<br>Tension de secteur<br>Netzspannung<br>Tensión de línea<br>Tensione di linea<br>Netspanning<br>線間電圧<br>线路电压 | ⏚ | Ground<br>Terre<br>Masse<br>Toma de tierra<br>Terra<br>Aarde<br>アース<br>接地 |
| N | Neutral<br>Neutral<br>Neutro<br>Neutro<br>Neutraal<br>中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

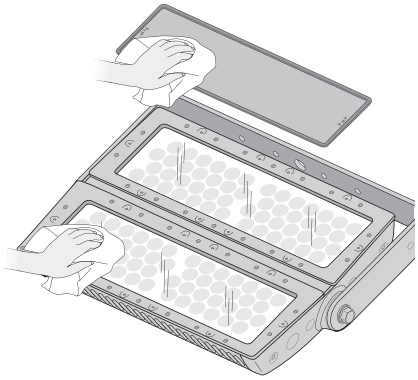


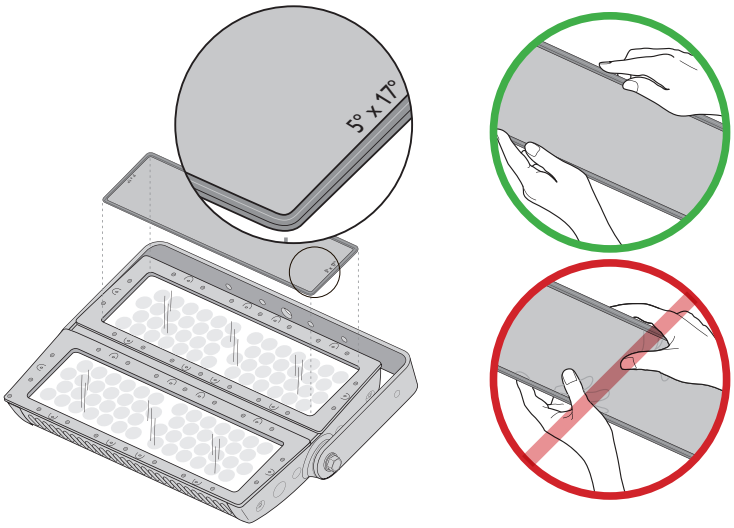
# Attach Spread Lenses (Optional)

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.

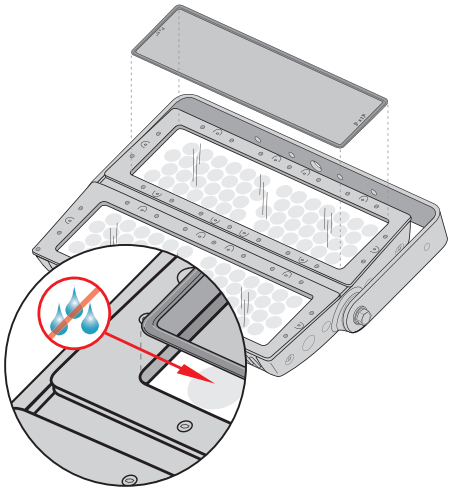


1. Unpack and confirm the contents of the box. Each box contains one lens kit, consisting of a spread lens with attached rubber gasket, and a bezel with 10 captured mounting screws.
2. Clean both sides of the spread lens and the face of the ColorReach Powercore housing, including glass surfaces, using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



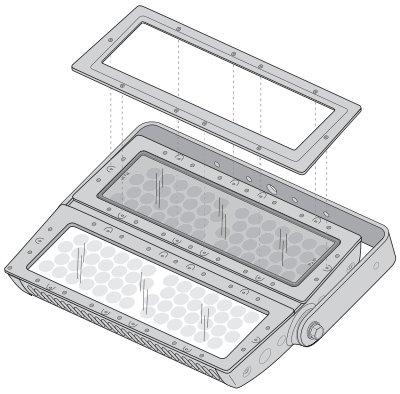



4 Place the spread lens on top of the ColorReach Powercore housing. Make sure that the spread lens and gasket are seated properly within the fixture housing. Also make sure that there is no moisture between the spread lens and the glass lens, as any moisture will compromise the effectiveness of the spread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

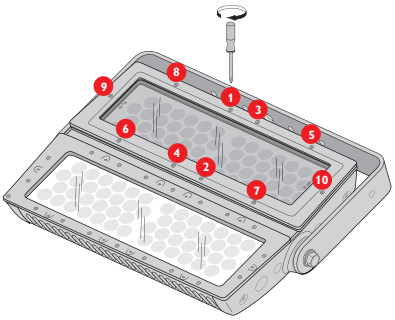


*For installation in extreme environments, refer to the Reach Spread Lens Kit Installation Instructions for details on sealing the spread lens and bezel to prohibit water ingress.*

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

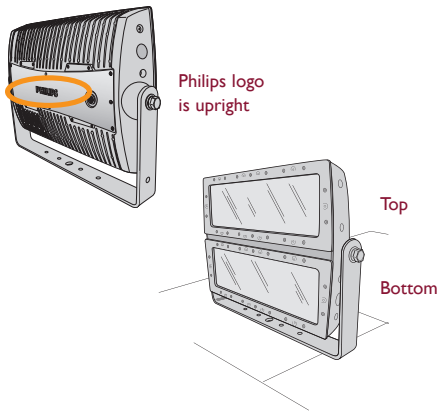
Make sure the power is ON before addressing and configuring fixtures.

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).

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.




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

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.philipscolorkinetics.com/support/addressing/*

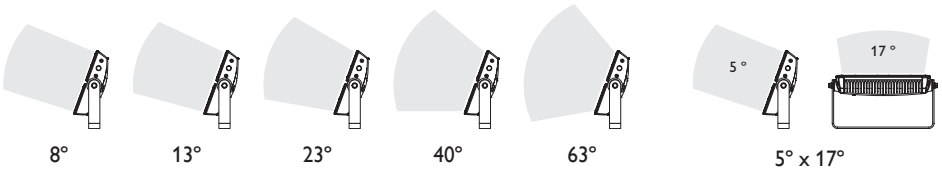
- In Ethernet installations, you can you use QuickPlay Pro with a computer connected directly to a switch within the light system's network. QuickPlay Pro can automatically discover all fixtures, controllers, and Data Enabler Pro devices for quick configuration.
- In DMX installations, you can address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

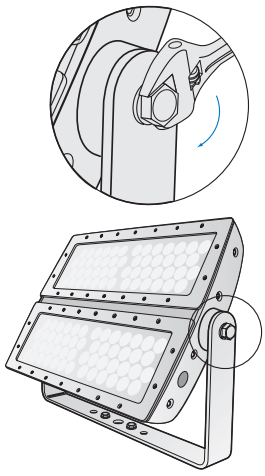
For complete details on addressing and configuration, refer to *Addressing and Configuration using QuickPlay Pro* at www.philipscolorkinetics.com/support/addressing.

# Aim and Lock the Fixtures

1. Aim the fixtures by rotating each fixture to the correct angle.

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



2. Lock the fixtures by tightening the locking bolts using a 28 mm hex or adjustable wrench.

Philips Color Kinetics
3 Burlington Woods Drive
Burlington, Massachusetts 01803 USA
Tel 888.385.5742
Tel 617.423.9999
Fax 617.423.9998
www.philipscolorkinetics.com


Cover Photo: Raymond James Stadium, by Stephen Kovich

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