

# ColorGrazze Powercore Family

Linear exterior LED wall grazing fixtures with intelligent color light

- ColorGrazze MX Powercore
- ColorGrazze QLX Powercore
- ColorGrazze QLX Powercore 5W
- ColorGrazze EC Powercore

**PHILIPS**



# ColorGraze Powercore Family

## Linear exterior LED wall grazing fixtures with intelligent color light

The new ColorGraze Powercore family dramatically extends the range and flexibility of the popular line of high-performance, full-color LED grazing fixtures from Philips Color Kinetics. These intelligent, high-performance fixtures offer intensely saturated full-color light output in a range of fixture lengths, beam angles, output levels, and power consumption levels. Low-profile housing, connectorized cabling, a universal power input range, and direct line-voltage operation make ColorGraze Powercore fixtures easy to install and operate. Custom lengths, color temperatures, beam angles, housing colors, and power consumption levels produce hundreds of possible configurations and light distribution patterns to support virtually any façade or surface illumination application.

- Tailor light output to specific applications — Available in four standard lengths, with standard 9° x 9°, 10° x 60°, 15° x 30°, 30° x 60° and 60° x 30° beam angles. Individually addressable 1 ft (305 mm) segments accommodate fine control of color-changing effects and pre-programmed light shows.
- High-performance illumination and beam quality — ColorGraze Powercore delivers over three hundred lumens of color-changing light per foot. Superior beam quality offers striation-free saturation for several feet from fixture placement with no visible light scalloping between fixtures.
- Integrates Powercore technology — Powercore technology rapidly, efficiently, and accurately controls power output to fixtures directly from line voltage. The Philips Data Enabler Pro merges line voltage with control and delivers them to the fixture over a single standard cable, dramatically simplifying installation and lowering total system cost.
- Versatile installation options — Convenient push-and-click connectors let you easily and rapidly install Leader Cables and Jumper Cables. Multiple cable lengths support a variety of layouts. Constant torque locking hinges offer simple and consistent position control from various angles. The low-profile aluminum housing accommodates placement within most architectural niches.
- Superior color consistency and accuracy — Optibin, an advanced binning algorithm, sets a new standard for the color consistency and uniformity of LED sources used in manufacturing. Chromasync technology achieves unprecedented consistency of light performance and color precision across multiple fixtures in an installation, while maximizing intensity and color range.
- Industry-leading controls — Fixtures work seamlessly with the complete Philips line of controllers, including Light System Manager, iPlayer 3, and ColorDial Pro, as well as third-party controllers.
- Universal power input range — Fixtures accept a universal power input range of 100 – 277 VAC for consistent installation anywhere in the world.
- Custom configurations for special applications — Create custom configurations to support special applications by exchanging the LED sources in any channel. Options include white LED color temperatures ranging from 2700 K to 6500 K, Blue, Green, Amber, and Red. 60° x 60° and 90° x 60° beam angles also available. See the ColorGraze Powercore Ordering Information specification sheet for complete details.

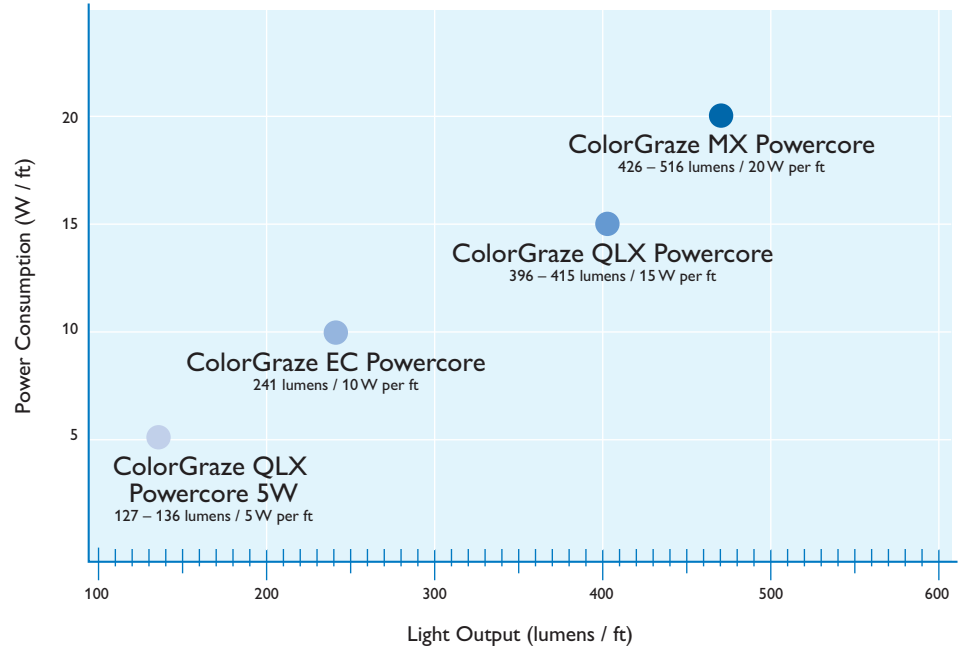


### High performance + easy installation

With flexible mounting options, multiple fixture length and beam angle options, integrated Powercore technology, and a discreet low-profile housing rated for use in outdoor locations, ColorGraze Powercore offers high performance and simple installation.

# Illuminate surfaces with the right level of light

The expanded range of ColorGraz Powercore full-color grazing lights offer four levels of performance at four levels of power consumption. A range of beam angles lets you select exactly the right light distribution and output for your application.



## ColorGraz MX Powercore

Features the most light output in our line of color-changing grazing fixtures — more than any previous version — for high-intensity multi-story façade and surface illumination.

## ColorGraz QLX Powercore

Outputs only 15% less light than ColorGraz MX Powercore, but consumes 25% less energy. Perfect for surface illumination applications calling for a balance of cost and performance.

## ColorGraz QLX Powercore 5W

Fixtures are factory-set to consume a maximum of 5 W per foot, to support ASHRAE standards, LEED green building certification, and other power-limited projects. Offers the same beam spread options as ColorGraz MX Powercore and ColorGraz QLX Powercore.

## ColorGraz EC Powercore

Wide beam angle (90° x 90°) produces a soft-edged, volume fill for exterior cove, niche, and architectural detail illumination.

# ColorGraze Powercore applications around the world



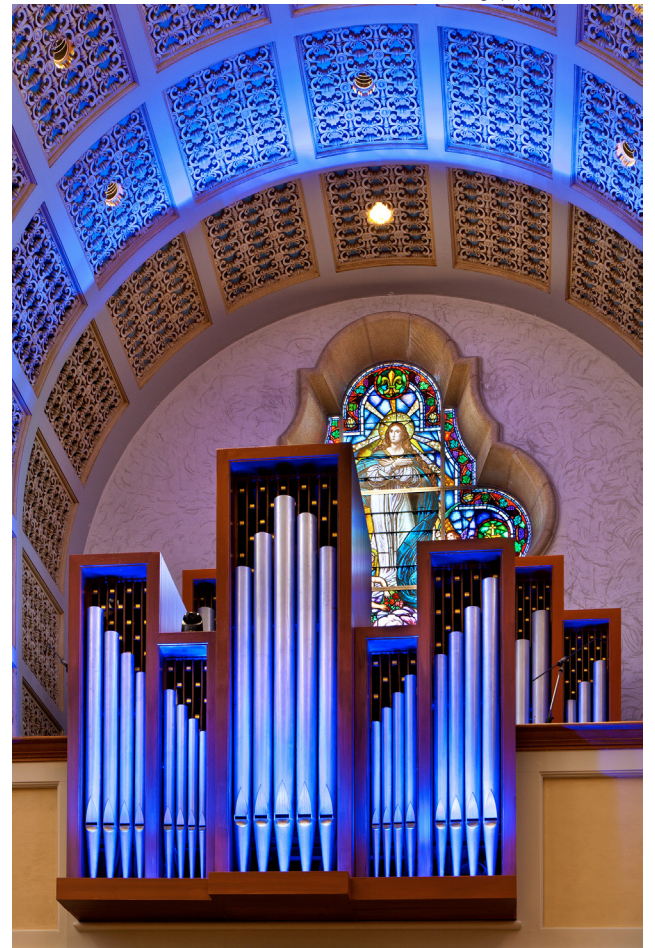
Photography: Craig Dugan Photography

## **Valspar Architectural Headquarters, Chicago, Illinois, USA**

ColorGraze Powercore fixtures, installed in a recessed cove within the drywall ceiling, graze the full height of the walls on both sides of the paint company's elevator lobby. The drywall features Valspar paint in an off-white tone in multiple finishes—high gloss, matte, satin, metallic, and textured—to create a patterned backdrop for the color wash.

## **Church of the Immaculata, San Diego, California, USA**

ColorGraze Powercore fixtures graze the pipe organ with preset liturgical colors (such as purple for Lent). Church personnel can easily change the organ lighting presets with a wall-mounted iColor Keypad pushbutton lighting controller.



Photography: Darren Edwards



Photography: Kaan Verdioglu

### **Bosphorus Bridge, Istanbul, Turkey**

The Bosphorus Bridge in Istanbul, Turkey, with its one mile suspended road, connects Europe and Asia. In 2008, Philips Color Kinetics was chosen to retrofit the bridge lighting with a new energy-efficient system that could impressively illuminate the structure while consuming minimal energy.

The bridge's zigzag steel cables are adorned with 1 ft (305 mm) ColorGraze Powercore fixtures, turning the bridge's impressive span into an eye-catching nighttime attraction.



Photography: James Field Photography, [www.jame.com.au](http://www.jame.com.au)

### **Adelaide Entertainment Center, Adelaide, South Australia**

Over 800 ColorGraze Powercore illuminate each section of ceiling. Controlled with a single Light System Manager Ethernet-based lighting controller, the lighting system delivers a programmable selection of breathtaking colors, patterns, and animations.

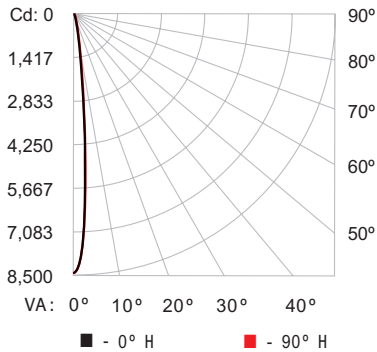
# Photometrics / ColorGraze MX Powercore, 20 W / ft

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

## 1 ft (305 mm), 9° x 9° beam angle

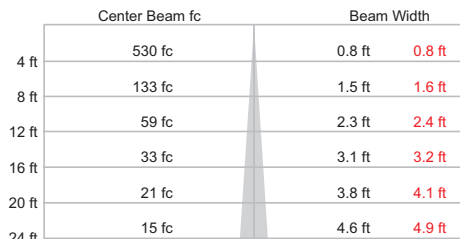
LED	Lumens	Efficacy
RGB	503	20.2

### Polar Candela Distribution



	0.0	22.5	45.0	67.5	90.0
0	8482	8482	8482	8482	8482
5	4686	4724	4826	4961	5037
15	426	398	375	389	403
25	63	57	61	52	51
35	17	15	16	17	17
45	6	5	7	7	8
55	4	3	3	4	4
65	3	2	2	2	2
75	1	1	0	1	1
85	0	0	0	0	0
90	0	0	0	0	0

### Illuminance at Distance



92 ft (28 m) 1 fc maximum distance  
 ■ Vert. Spread: 11.0°  
 ■ Horiz. Spread: 11.6°

### Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RC	80	70	50	30	10	0
0	119119119119	116116116116	1111111111	106106106	102102102	100
1	116114112111	113112110109	108107106	104103103	101100100	98
2	113110107105	11108106104	105103102	10210199	100989796	96
3	110106103101	108105102100	10210098	1009897	98979694	94
4	10810310097	1061029997	1009896	989695	97959493	93
5	1051019795	1041009794	989694	979593	96949291	91
6	103989593	102989592	979492	959391	94929190	90
7	102979391	101969391	959290	949290	93919089	89
8	100959289	99949189	949189	939089	92908888	88
9	98939088	98939088	929088	929088	91898787	87
10	97928987	96928987	918887	908886	90888686	86

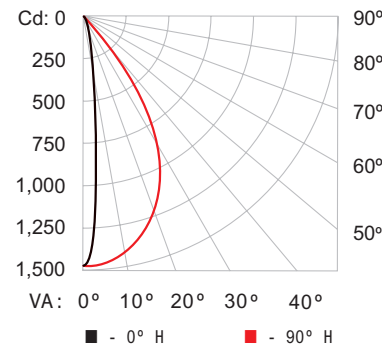
### Zonal Lumen

ZONE	LUMENS	%FIXT
0-30	481	95.6
0-40	491	97.7
0-60	500	99.4
0-90	503	100.0
90-120	0	0.0
90-130	0	0.0
90-150	0	0.0
90-180	0	0.0
0-180	503	100.0

## 1 ft (305 mm), 10° x 60° beam angle

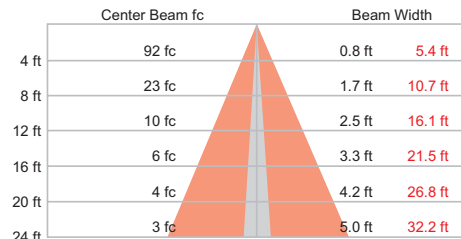
LED	Lumens	Efficacy
RGB	476	18.8

### Polar Candela Distribution



	0.0	22.5	45.0	67.5	90.0
0	1475	1475	1475	1475	1475
5	876	938	1135	1366	1467
15	128	150	255	715	1379
25	24	31	76	286	1122
35	9	11	23	112	683
45	4	5	10	42	261
55	3	3	5	15	66
65	2	2	3	6	21
75	1	1	1	3	7
85	1	1	1	1	1
90	0	0	0	0	0

### Illuminance at Distance



38 ft (11.6 m) 1 fc maximum distance  
 ■ Vert. Spread: 11.9°  
 ■ Horiz. Spread: 67.7°

### Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RC	80	70	50	30	10	0
0	119119119119	116116116116	1111111111	106106106	102102102	100
1	114111108106	111109106104	105103101	1019998	97969594	94
2	1081039996	1061029895	989593	959391	93918987	87
3	103979288	101959187	938986	908784	88858382	82
4	98918581	96898581	878380	858279	84807876	76
5	93858076	92847975	837875	817774	79767372	72
6	89817571	88807471	787470	777370	76726968	68
7	85767167	84757066	747065	736966	72686564	64
8	82736763	80726763	716663	706562	69656261	61
9	78696460	77696360	686360	676259	66625958	58
10	75666157	74666057	656057	646057	63595655	55

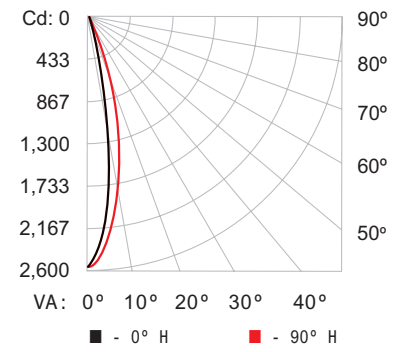
### Zonal Lumen

ZONE	LUMENS	%FIXT
0-30	341	71.7
0-40	416	87.4
0-60	466	98.1
0-90	476	100.0
90-120	0	0.0
90-130	0	0.0
90-150	0	0.0
90-180	0	0.0
0-180	476	100.0

## 1 ft (305 mm), 15° x 30° beam angle

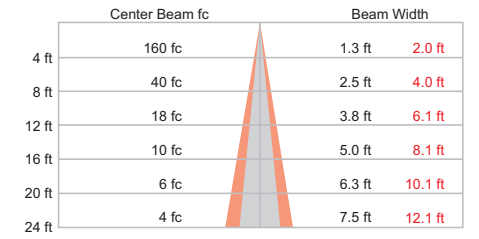
LED	Lumens	Efficacy
RGB	496	19.8

### Polar Candela Distribution



	0.0	22.5	45.0	67.5	90.0
0	2554	2554	2554	2554	2554
5	2052	2091	2198	2313	2361
15	425	480	669	984	1174
25	61	72	110	201	285
35	15	16	23	36	46
45	7	7	9	12	13
55	5	4	5	6	7
65	3	3	3	4	4
75	1	1	1	2	2
85	1	1	1	1	0
90	1	0	0	0	0

### Illuminance at Distance



50 ft (15.2 m) 1 fc maximum distance  
 ■ Vert. Spread: 17.9°  
 ■ Horiz. Spread: 28.4°

### Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RC	80	70	50	30	10	0
0	119119119119	116116116116	1111111111	106106106	102102102	100
1	115113111109	112110109107	106105104	103102101	99999896	96
2	111107104101	109105103100	10210098	999896	97959493	93
3	1071029996	1051019895	999694	969492	94929189	89
4	104989491	102979491	959290	939189	92898886	86
5	101959087	99949087	928986	918886	89878584	84
6	98918784	97918784	898683	888583	87848281	81
7	95888481	94888481	878381	868380	85828079	79
8	92868279	91858179	848178	838078	83807877	77
9	90837976	89837976	827976	817876	81787675	75
10	88817774	87817774	807674	797674	79767473	73

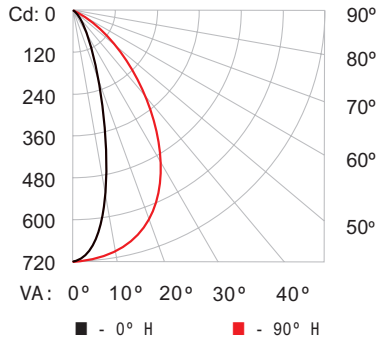
### Zonal Lumen

ZONE	LUMENS	%FIXT
0-30	459	92.7
0-40	478	96.4
0-60	490	98.9
0-90	496	100.0
90-120	0	0.0
90-130	0	0.0
90-150	0	0.0
90-180	0	0.0
0-180	496	100.0

### 1 ft (305 mm), 30° x 60° beam angle

LED	Lumens	Efficacy
RGB	488	19.4

#### Polar Candela Distribution

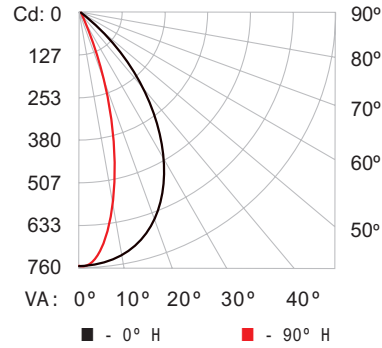


	0.0	22.5	45.0	67.5	90.0
0	718	718	718	718	718
5	665	671	688	705	712
15	344	378	476	604	668
25	97	120	216	421	569
35	26	32	68	220	405
45	13	14	21	82	212
55	10	10	10	26	77
65	6	6	6	9	22
75	2	2	2	3	6
85	1	1	1	1	1
90	1	1	0	0	0

### 1 ft (305 mm), 60° x 30° beam angle

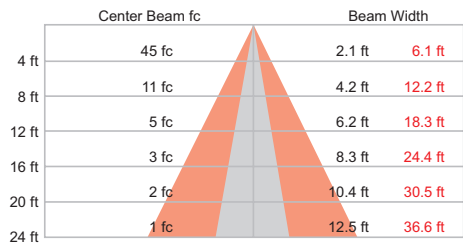
LED	Lumens	Efficacy
RGB	516	20.6

#### Polar Candela Distribution



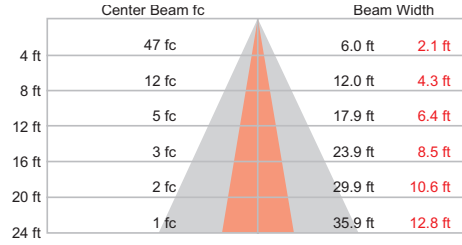
	0.0	22.5	45.0	67.5	90.0
0	756	756	756	756	756
5	750	743	726	709	703
15	700	636	507	408	374
25	594	445	235	136	111
35	415	230	76	36	29
45	210	86	24	14	13
55	73	28	11	9	9
65	19	11	6	6	6
75	5	3	3	3	3
85	3	2	1	1	1
90	1	1	1	0	0

#### Illuminance at Distance



26 ft (7.3 m) 1 fc maximum distance  
 ■ Vert. Spread: 29.1°  
 ■ Horiz. Spread: 74.7°

#### Illuminance at Distance



12 ft (8.2 m) 1 fc maximum distance  
 ■ Vert. Spread: 73.6°  
 ■ Horiz. Spread: 29.8°

#### Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RC	80	70	50	30	10	0										
RW	70	50	30	10	50	30	10	0								
0	119119119119	116116116116	111111111111	106106106	102102102	100										
1	113110107105	111108106103	104102100	100	99	97	95	94	93							
2	107102	98	94	105100	96	93	97	94	91	89	87	85				
3	101	94	89	85	99	93	88	84	90	86	83	88	83	80	79	
4	96	88	82	78	94	87	81	77	85	80	76	83	79	76	74	73
5	91	82	76	72	89	81	75	71	79	74	71	78	73	70	69	68
6	86	77	71	66	85	76	70	66	75	69	66	73	69	65	63	63
7	82	72	66	62	81	72	66	62	70	65	61	69	64	61	59	59
8	78	68	62	58	77	68	62	58	67	61	57	65	60	57	56	56
9	74	64	58	54	73	64	58	54	63	58	54	62	57	54	52	52
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	49	49

#### Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RC	80	70	50	30	10	0										
RW	70	50	30	10	50	30	10	0								
0	119119119119	116116116116	111111111111	106106106	102102102	100										
1	113110107105	111108106103	104102100	100	99	97	95	94	93							
2	107102	98	94	105100	96	93	97	94	91	89	87	85				
3	101	95	89	85	99	93	88	84	90	86	83	88	83	80	79	
4	96	88	82	78	94	87	82	77	85	80	76	83	79	76	75	73
5	91	82	76	72	89	81	76	71	80	75	71	78	73	70	69	68
6	86	77	71	67	85	76	71	66	75	70	66	73	69	65	63	63
7	82	73	67	63	81	72	66	62	71	65	61	69	64	61	59	59
8	78	68	62	58	77	68	62	58	67	61	57	65	60	57	56	56
9	75	65	59	55	73	64	58	55	63	58	54	62	57	54	53	53
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	49	49

#### Zonal Lumen

ZONE	LUMENS	%FIXT
0- 30	324	66.3
0- 40	409	83.7
0- 60	475	97.2
0- 90	488	100.0
90-120	0	0.0
90-130	0	0.0
90-150	0	0.0
90-180	0	0.0
0-180	488	100.0

#### Zonal Lumen

ZONE	LUMENS	%FIXT
0- 30	345	66.9
0- 40	434	84.1
0- 60	502	97.2
0- 90	516	99.9
90-120	0	0.1
90-130	0	0.1
90-150	0	0.1
90-180	0	0.1
0-180	516	100.0

For lux multiply fc by 10.7

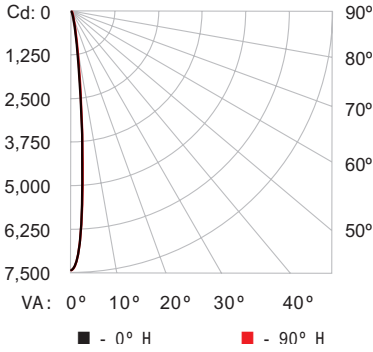
# Photometrics / ColorGraze QLX Powercore, 15 W / ft

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

## 1 ft (305 mm), 9° x 9° beam angle

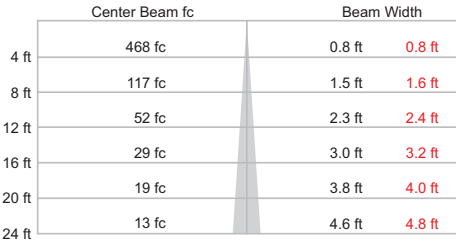
LED	Lumens	Efficacy
RGB	415	20.9

### Polar Candela Distribution



	0.0	22.5	45.0	67.5	90.0
0	7492	7492	7492	7492	7492
5	4115	4147	4251	4345	4371
15	315	297	289	301	317
25	40	35	40	36	35
35	10	9	10	11	12
45	4	4	5	5	5
55	2	2	3	3	3
65	2	2	2	2	2
75	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0

### Illuminance at Distance



86 ft (26.2 m)    ■ Vert. Spread: 10.9°  
1 fc maximum distance    ■ Horiz. Spread: 11.4°

### Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RC	80	70	50	30	10	0
RW	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	50 30 10 0
0	119119119119	116116116116	1111111111	106106106	102102102	100
1	116114112111	114112111109	108107106	104104103	101101000	98
2	113110108105	111108106104	105104102	103101100	100 99 98	97
3	110107104101	109105103101	103101 99	101 99 98	99 97 96	95
4	108104101 98	107103100 98	101 99 97	99 97 96	98 96 95	94
5	106101 98 96	105101 98 96	99 97 95	98 96 94	96 95 93	92
6	104 99 96 94	103 99 96 94	98 95 93	96 94 93	95 93 92	91
7	102 98 95 92	102 97 94 92	96 94 92	95 93 91	94 92 91	90
8	101 96 93 91	100 96 93 91	95 92 90	94 92 90	93 91 90	89
9	99 95 92 90	99 94 91 90	94 91 89	93 91 89	92 90 89	88
10	98 93 90 89	97 93 90 88	92 90 88	92 90 88	91 89 88	87

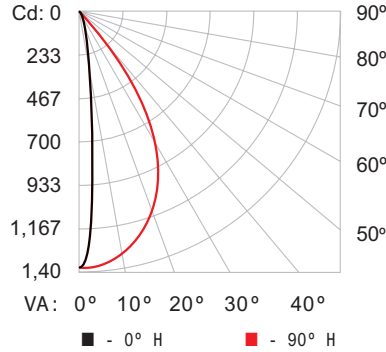
### Zonal Lumen

ZONE	LUMENS	%FIXT
0- 30	400	96.5
0- 40	407	98.1
0- 60	413	99.5
0- 90	415	100.0
90-120	0	0.0
90-130	0	0.0
90-150	0	0.0
90-180	0	0.0
0-180	415	100.0

## 1 ft (305 mm), 10° x 60° beam angle

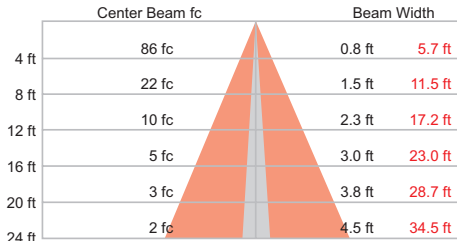
LED	Lumens	Efficacy
RGB	408	19.9

### Polar Candela Distribution



	0.0	22.5	45.0	67.5	90.0
0	1376	1376	1376	1376	1376
5	749	822	1041	1280	1371
15	88	107	184	585	1313
25	14	19	49	203	1116
35	5	7	14	82	721
45	3	3	6	28	278
55	2	2	3	10	64
65	1	2	2	4	19
75	1	1	1	2	6
85	0	0	1	0	1
90	0	0	0	0	0

### Illuminance at Distance



37 ft (11.3 m)    ■ Vert. Spread: 10.8°  
1 fc maximum distance    ■ Horiz. Spread: 71.4°

### Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RC	80	70	50	30	10	0
RW	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	50 30 10 0
0	119119119119	116116116116	1111111111	106106106	102102102	100
1	114111108106	111109107105	105103101	101100 98	98 97 96	94
2	108103100 96	106102 98 95	99 96 93	96 93 91	93 91 89	88
3	103 97 92 88	101 95 91 87	93 89 86	90 87 85	88 86 83	82
4	98 91 86 82	96 90 85 81	88 84 80	86 82 79	84 81 78	77
5	94 86 80 76	92 85 80 76	83 79 75	81 77 74	80 76 74	72
6	90 81 75 71	88 80 75 71	79 74 71	77 73 70	76 73 70	68
7	86 77 71 67	84 76 71 67	75 70 67	74 70 66	73 69 66	65
8	82 73 67 64	81 73 67 63	71 67 63	70 66 63	70 66 63	61
9	79 70 64 60	78 69 64 60	68 63 60	67 63 60	67 63 60	58
10	76 67 61 58	75 66 61 57	65 61 57	65 60 57	64 60 57	56

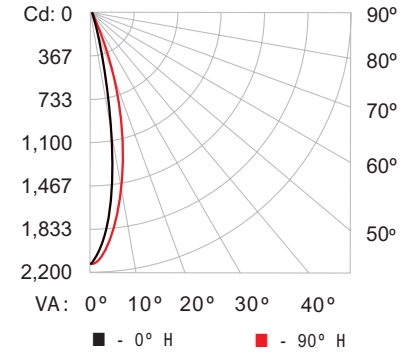
### Zonal Lumen

ZONE	LUMENS	%FIXT
0- 30	294	72.2
0- 40	359	88.1
0- 60	401	98.3
0- 90	408	100.0
90-120	0	0.0
90-130	0	0.0
90-150	0	0.0
90-180	0	0.0
0-180	408	100.0

## 1 ft (305 mm), 15° x 30° beam angle

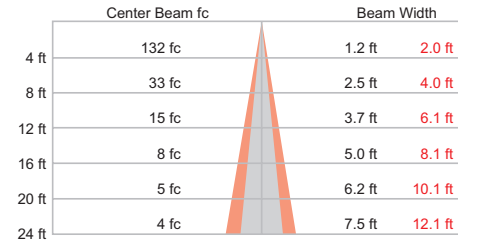
LED	Lumens	Efficacy
RGB	407	20.7

### Polar Candela Distribution



	0.0	22.5	45.0	67.5	90.0
0	2114	2114	2114	2114	2114
5	1692	1726	1819	1911	1950
15	344	390	546	809	971
25	50	59	90	165	236
35	11	13	19	30	39
45	5	6	7	10	11
55	3	4	4	5	6
65	2	2	3	3	3
75	1	1	1	2	2
85	0	0	1	0	0
90	0	0	0	0	0

### Illuminance at Distance



46 ft (14 m)    ■ Vert. Spread: 17.7°  
1 fc maximum distance    ■ Horiz. Spread: 28°

### Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RC	80	70	50	30	10	0
RW	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	50 30 10 0
0	119119119119	116116116116	1111111111	106106106	102102102	100
1	115113111109	11211109107	107105104	103102101	99 99 98	96
2	111107104101	109105103100	102100 98	99 98 96	97 95 94	93
3	107102 99 96	105101 98 95	99 96 94	96 94 92	94 92 91	89
4	104 98 94 91	102 97 94 91	95 92 90	93 91 89	92 90 88	86
5	101 95 90 87	99 94 90 87	92 89 86	91 88 86	89 87 85	84
6	98 91 87 84	97 91 87 84	89 86 83	88 85 83	87 84 82	81
7	95 89 84 81	94 88 84 81	87 83 81	86 83 80	85 82 80	79
8	92 86 82 79	92 85 81 79	84 81 78	84 80 78	83 80 78	77
9	90 83 79 76	89 83 79 76	82 79 76	81 78 76	81 78 76	75
10	88 81 77 74	87 81 77 74	80 77 74	79 76 74	79 76 74	73

### Zonal Lumen

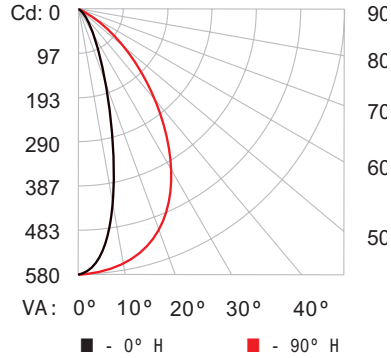
ZONE	LUMENS	%FIXT
0- 30	378	92.7
0- 40	393	96.4
0- 60	403	98.9
0- 90	407	100.0
90-120	0	0.0
90-130	0	0.0
90-150	0	0.0
90-180	0	0.0
0-180	407	100.0



### 1 ft (305 mm), 30° x 60° beam angle

LED	Lumens	Efficacy
RGB	396	20.2

#### Polar Candela Distribution

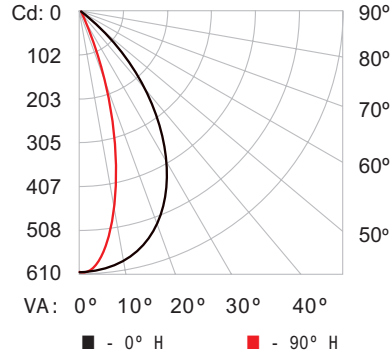


	0.0	22.5	45.0	67.5	90.0
0	579	579	579	579	579
5	537	542	556	569	574
15	278	306	385	488	539
25	79	97	175	341	459
35	21	26	55	179	328
45	11	11	17	68	172
55	8	7	8	22	63
65	5	5	5	8	19
75	2	2	2	3	5
85	1	1	1	1	1
90	0	0	0	0	0

### 1 ft (305 mm), 60° x 30° beam angle

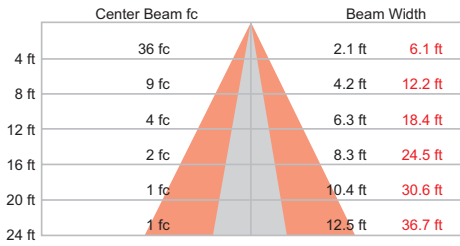
LED	Lumens	Efficacy
RGB	411	20.7

#### Polar Candela Distribution



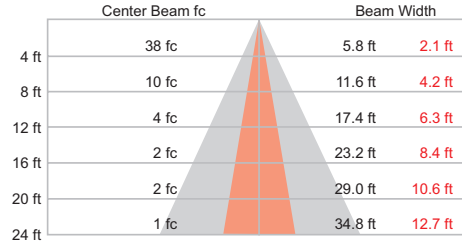
	0.0	22.5	45.0	67.5	90.0
0	609	609	609	609	609
5	606	599	585	571	565
15	565	512	406	325	298
25	474	353	187	108	88
35	321	180	61	29	23
45	154	66	20	12	11
55	51	22	9	7	7
65	13	8	5	4	4
75	4	3	2	2	2
85	2	1	1	0	0
90	1	1	0	0	0

#### Illuminance at Distance



24 ft (7.3 m)    ■ Vert. Spread: 29.2°  
 1 fc maximum distance    ■ Horiz. Spread: 74.8°

#### Illuminance at Distance



24 ft (7.3 m)    ■ Vert. Spread: 71.9°  
 1 fc maximum distance    ■ Horiz. Spread: 29.6°

#### Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RC	80	70	50	30	10	0
0	119119119119	116116116116	1111111111	106106106	102102102	100
1	113110107105	111108105103	104102100	100 99 97	97 95 94	93
2	107102 97 94	105100 96 93	97 94 91	94 91 89	91 89 87	85
3	101 94 89 85	99 93 88 84	90 86 83	88 84 82	86 83 80	79
4	96 88 82 78	94 87 81 77	85 80 76	82 78 75	81 77 74	73
5	91 82 76 71	89 81 75 71	79 74 70	78 73 70	76 72 69	68
6	86 77 71 66	85 76 70 66	75 69 65	73 69 65	72 68 65	63
7	82 72 66 62	81 72 66 61	70 65 61	69 64 61	68 64 60	59
8	78 68 62 58	77 68 62 58	66 61 57	65 61 57	64 60 57	55
9	74 64 58 54	73 64 58 54	63 58 54	62 57 54	61 57 54	52
10	71 61 55 51	70 61 55 51	60 55 51	59 54 51	58 54 51	49

#### Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RC	80	70	50	30	10	0
0	119119119119	116116116116	1111111111	106106106	102102102	100
1	113110108105	111108106104	104102100	100 99 97	97 96 94	93
2	107102 98 94	105100 96 93	97 94 91	94 91 89	91 89 87	86
3	102 95 90 85	99 93 89 85	91 87 83	88 85 82	86 83 81	79
4	96 88 83 78	94 87 82 78	85 80 77	83 79 76	81 78 75	73
5	91 83 77 72	90 82 76 72	80 75 71	78 74 70	77 73 70	68
6	87 77 71 67	85 77 71 67	75 70 66	74 69 66	72 68 65	64
7	82 73 67 62	81 72 66 62	71 66 62	70 65 62	69 64 61	60
8	78 69 63 58	77 68 62 58	67 62 58	66 61 58	65 61 58	56
9	75 65 59 55	74 65 59 55	64 58 55	63 58 55	62 58 54	53
10	71 62 56 52	70 61 56 52	60 55 52	60 55 52	59 55 51	50

#### Zonal Lumen

ZONE	LUMENS	%FIXT
0- 30	262	66.2
0- 40	331	83.5
0- 60	385	97.1
0- 90	396	100.0
90-120	0	0.0
90-130	0	0.0
90-150	0	0.0
90-180	0	0.0
0-180	396	100.0

#### Zonal Lumen

ZONE	LUMENS	%FIXT
0- 30	278	67.6
0- 40	349	84.8
0- 60	401	97.4
0- 90	411	100.0
90-120	0	0.0
90-130	0	0.0
90-150	0	0.0
90-180	0	0.0
0-180	411	100.0

For lux multiply fc by 10.7

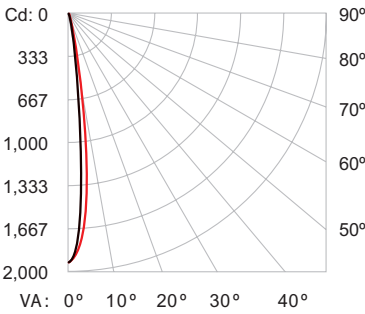
# Photometrics / ColorGraze QLX Powercore 5W, 5 W / ft

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

## 1 ft (305 mm), 9° x 9° beam angle

LED	Lumens	Efficacy
RGB	136	30.2

### Polar Candela Distribution

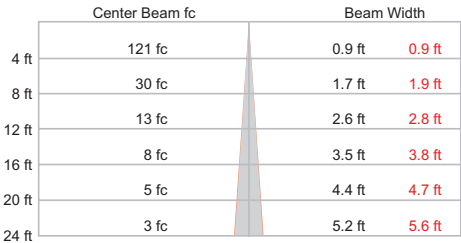


VA: 0° 10° 20° 30° 40°

■ - 0° H    ■ - 90° H

	0	25	45	70	90
0	1931	1931	1931	1931	1931
5	1094	979	974	1184	1464
15	66	69	73	87	103
25	10	10	10	13	12
35	3	3	3	3	3
45	1	1	1	2	2
55	1	1	1	1	1
65	0	1	0	0	1
75	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0

### Illuminance at Distance



44 ft (13.4 m)    ■ Vert. Spread: 12.5°  
1 fc maximum distance    ■ Horiz. Spread: 13.4°

### Coefficients Of Utilization - Zonal Cavity Method

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

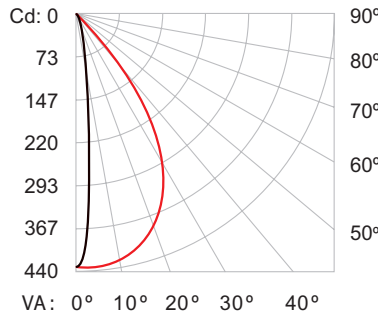
### Zonal Lumen

Zone	Lumens	% Fixture
0 - 60	134.9	99.3 %
60 - 90	1.0	0.7 %
0 - 90	135.9	100.0 %

## 1 ft (305 mm), 10° x 60° beam angle

LED	Lumens	Efficacy
RGB	127	28.4

### Polar Candela Distribution

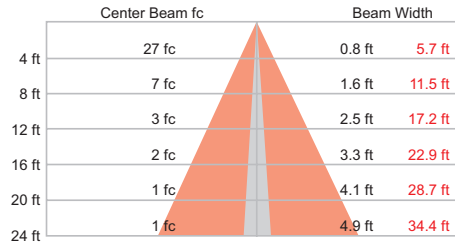


VA: 0° 10° 20° 30° 40°

■ - 0° H    ■ - 90° H

	0	25	45	70	90
0	429	429	429	429	429
5	282	304	351	414	430
15	35	45	77	265	414
25	6	8	22	115	352
35	2	2	6	44	224
45	1	1	2	16	80
55	1	1	1	5	18
65	0	1	1	2	5
75	0	0	0	1	2
85	0	0	0	0	0
90	0	0	0	0	0

### Illuminance at Distance



20.7 ft (6.3 m)    ■ Vert. Spread: 11.7°  
1 fc maximum distance    ■ Horiz. Spread: 71.3°

### Coefficients Of Utilization - Zonal Cavity Method

RCC %:	Effective Floor Cavity Reflectance: 20%							
	80	70	50	30	10	0	0	
RW %:	70	50	30	0	70	50	30	0
RCR:	0	119	119	119	119	116	116	116
1	114	111	109	106	111	109	107	94
2	108	104	100	96	106	102	98	88
3	103	97	92	88	101	96	91	83
4	98	91	86	82	97	90	85	78
5	94	86	80	76	92	85	80	74
6	90	81	76	72	88	81	75	70
7	86	77	72	68	85	77	71	66
8	82	73	68	64	81	73	68	63
9	79	70	65	61	78	70	64	60
10	76	67	62	58	75	67	61	57

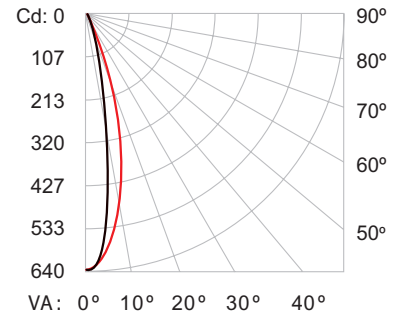
### Zonal Lumen

Zone	Lumens	% Fixture
0 - 60	124.8	98.4 %
60 - 90	2.1	1.6 %
0 - 90	126.9	100.0 %

## 1 ft (305 mm), 15° x 30° beam angle

LED	Lumens	Efficacy
RGB	128	28.5

### Polar Candela Distribution

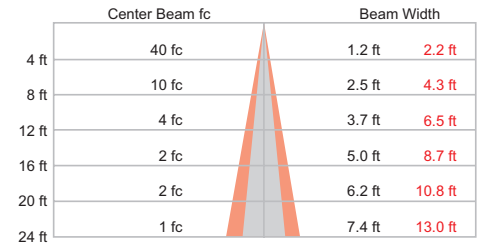


VA: 0° 10° 20° 30° 40°

■ - 0° H    ■ - 90° H

	0	25	45	70	90
0	635	635	635	635	635
5	523	524	546	575	582
15	114	131	177	272	316
25	17	21	32	65	90
35	4	4	7	12	16
45	2	2	2	3	4
55	1	1	1	2	2
65	1	1	1	1	1
75	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0

### Illuminance at Distance



25.2 ft (7.7 m)    ■ Vert. Spread: 17.6°  
1 fc maximum distance    ■ Horiz. Spread: 30.3°

### Coefficients Of Utilization - Zonal Cavity Method

RCC %:	Effective Floor Cavity Reflectance: 20%							
	80	70	50	30	10	0	0	
RW %:	70	50	30	0	70	50	30	0
RCR:	0	119	119	119	119	116	116	116
1	115	113	111	109	112	110	109	96
2	111	107	104	101	109	105	103	93
3	107	102	98	96	105	101	98	90
4	104	98	94	91	102	97	93	87
5	100	94	90	87	99	94	90	84
6	97	91	87	84	96	90	86	82
7	95	88	84	81	94	87	83	79
8	92	85	81	78	91	85	81	77
9	90	83	79	76	89	82	78	75
10	87	80	76	74	86	80	76	73

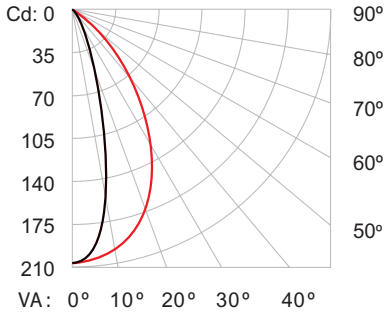
### Zonal Lumen

Zone	Lumens	% Fixture
0 - 60	126.5	98.9 %
60 - 90	1.4	1.4 %
0 - 90	127.9	100.0 %

### 1 ft (305 mm), 30° x 60° beam angle

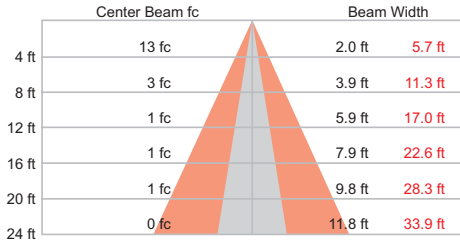
LED	Lumens	Efficacy
RGB	129	28.7

#### Polar Candela Distribution



	0° H	90° H
0	205	204
5	196	200
15	103	144
25	31	41
35	8	11
45	4	4
55	2	2
65	2	2
75	1	1
85	0	0
90	0	0

#### Illuminance at Distance



14.3 ft (4.4 m) 1 fc maximum distance  
 Vert. Spread: 27.6°  
 Horiz. Spread: 70.5°

#### Coefficients Of Utilization - Zonal Cavity Method

RCC %:	Effective Floor Cavity Reflectance: 20%											
	80	70	60	50	40	30	20	10	0	0		
RW %:	20	50	30	0	70	50	30	0	50	30	20	0
RCR: 0	119	119	119	119	116	116	116	100	111	111	111	100
1	113	110	108	105	111	108	106	93	104	102	100	100
2	107	102	98	94	105	101	97	86	97	94	91	86
3	102	95	90	86	100	94	89	80	91	87	84	79
4	96	89	83	78	95	87	82	75	85	81	77	74
5	91	83	77	72	90	82	76	70	80	75	71	69
6	87	78	72	67	85	77	71	65	75	70	67	64
7	83	73	67	63	81	73	67	61	71	66	62	60
8	79	69	63	59	78	69	63	58	67	62	59	57
9	75	65	60	56	74	65	59	55	64	59	55	53
10	72	62	56	52	71	62	56	52	61	56	52	51

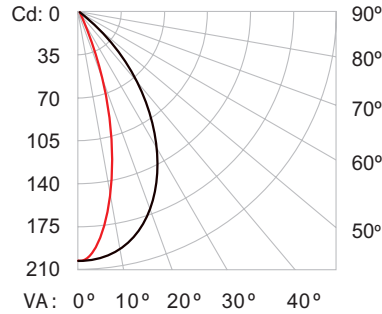
#### Zonal Lumen

Zone	Lumens	% Fixture
0 - 60	126.0	97.4 %
60 - 90	3.3	2.6 %
0 - 90	129.3	100.0 %

### 1 ft (305 mm), 60° x 30° beam angle

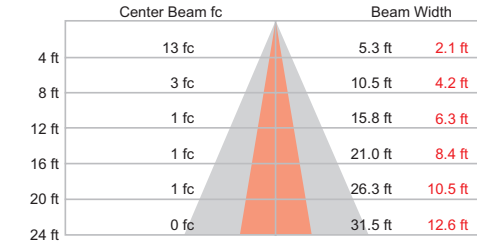
LED	Lumens	Efficacy
RGB	130	29.1

#### Polar Candela Distribution



	0° H	90° H
0	204	201
5	203	201
15	187	168
25	153	111
35	96	51
45	44	18
55	14	6
65	4	2
75	1	1
85	0	0
90	0	0

#### Illuminance at Distance



14.3 ft (4.4 m) 1 fc maximum distance  
 Vert. Spread: 66.6°  
 Horiz. Spread: 29.5°

#### Coefficients Of Utilization - Zonal Cavity Method

RCC %:	Effective Floor Cavity Reflectance: 20%											
	80	70	60	50	40	30	20	10	0	0		
RW %:	70	50	30	0	70	50	30	0	50	30	20	0
RCR: 0	119	119	119	119	116	116	116	100	111	111	111	100
1	113	110	108	105	111	108	106	93	104	102	100	100
2	107	102	98	95	105	101	97	87	97	94	92	86
3	102	95	90	86	100	94	89	81	91	87	84	80
4	97	89	83	79	95	88	83	75	86	81	78	74
5	92	83	77	73	90	82	77	70	81	76	72	69
6	87	78	72	68	86	77	72	66	76	71	67	65
7	83	74	68	63	82	73	67	62	72	67	63	61
8	79	70	64	60	78	69	63	59	68	63	59	57
9	76	66	60	56	75	66	60	55	65	59	56	54
10	72	63	57	53	71	62	57	53	61	56	53	51

#### Zonal Lumen

Zone	Lumens	% Fixture
0 - 60	127.2	97.6 %
60 - 90	3.1	2.4 %
0 - 90	130.2	100.0 %

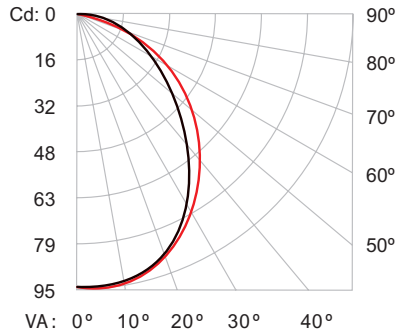
# Photometrics / ColorGraze EC Powercore

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

1 ft (305 mm), 90° x 90° beam angle

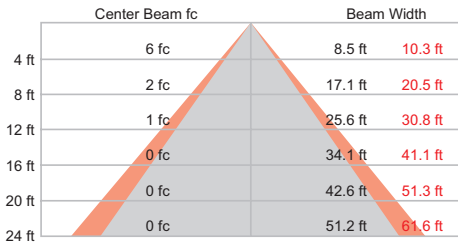
LED	Lumens	Efficacy
RGB	241	15.4

## Polar Candela Distribution



	0° H	10° H	20° H	30° H	40° H	90° H
0	0.0	22.5	45.0	67.5	90.0	0.0
5	93.7	93.7	93.7	93.7	93.7	93.7
15	93.5	93.4	93.4	93.3	93.3	93.3
25	90.3	90.2	90.4	90.4	90.4	90.4
35	81.5	82.0	83.2	83.7	83.8	83.8
45	65.2	66.6	70.7	72.5	72.7	72.7
55	50.3	51.4	53.9	57.7	58.5	58.5
65	33.1	34.1	38.1	41.2	42.3	42.3
75	22.2	22.0	23.3	25.9	26.5	26.5
85	14.9	14.2	13.2	13.1	12.9	12.9
90	9.8	8.8	6.6	4.3	2.8	2.8
95	7.6	6.6	4.3	1.8	0.4	0.4

## Illuminance at Distance



9 ft (2.7 m) 1 fc maximum distance

Vert. Spread: 93.7°  
 Horiz. Spread: 104.1°

## Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RC	80			70			50			30			10			0		
Rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	0			
0	1191	191	119	119	1161	161	116	116	1101	101	10	105	105	105	100	100	100	98
1	108	104	99	95	105	101	97	94	97	93	90	92	90	87	89	86	85	82
2	99	91	84	79	96	89	83	77	85	80	75	82	77	73	78	75	72	69
3	91	80	72	66	88	79	71	65	75	69	64	72	67	63	70	65	61	59
4	83	72	63	56	81	70	62	56	67	61	55	65	59	54	63	57	53	51
5	77	64	55	49	75	63	55	49	61	54	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	38	49	42	37	47	41	37	35
8	62	48	40	34	60	48	40	34	46	39	34	45	38	34	43	38	33	31
9	58	44	36	31	56	44	36	31	43	36	31	41	35	30	40	34	30	28
10	54	41	33	28	53	41	33	28	39	33	28	38	32	28	37	32	28	26

## Zonal Lumen

ZONE	LUMENS	%FIXT
0- 30	72	30.0
0- 40	116	48.1
0- 60	192	79.4
0- 90	237	98.3
90-120	4	1.7
90-130	4	1.7
90-150	4	1.7
90-180	4	1.7
0-180	241	100.0

For lux multiply fc by 10.7

# Specifications / ColorGraze MX Powercore

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

Item	Beam Angle	1 ft (305 mm)	2 ft (610 mm)	3 ft (914 mm)	4 ft (1219 mm)
Lumens*	9° x 9°	503	1006	1509	2012
	10° x 60°	476	952	1428	1904
	15° x 30°	496	992	1488	1984
	30° x 60°	488	976	1464	1952
	60° x 30°	516	1032	1548	2064

Item	Specification	1 ft (305 mm)	2 ft (610 mm)	3 ft (914 mm)	4 ft (1219 mm)
Output	LED Channels	Red / Green / Blue			
	Lumen Maintenance†	80,000 hours L70 @ 25° C    60,000 hours L70 @ 50° C 100,000 hours L50 @ 25° C    80,000 hours L50 @ 50° C			
Electrical	Input Voltage	100 – 277 VAC, auto-ranging, 50 / 60 Hz			
	Power Consumption	20 W max. at full output, steady state	40 W max. at full output, steady state	60 W max. at full output, steady state	80 W max. at full output, steady state
Control	Interface	Data Enabler Pro (DMX or Ethernet)			
	Control System	Philips Color Kinetics full range of controllers, including Light System Manager, iPlayer 3, and ColorDial Pro, or third-party controllers			
Physical	Dimensions (Height x Width x Depth)	2.7 x 12 x 2.8 in (69 x 305 x 71 mm)	2.7 x 24 x 2.8 in (69 x 610 x 71 mm)	2.7 x 36 x 2.8 in (69 x 914 x 71 mm)	2.7 x 48 x 2.8 in (69 x 1219 x 71 mm)
	Weight	2.1 lb (1.0 kg)	4.6 lb (2.1 kg)	7.1 lb (3.2 kg)	9.3 lb (4.2 kg)
	Housing	Extruded anodized aluminum			
	Lens	Clear polycarbonate			
	Fixture Connectors	Integral male / female waterproof connectors			
	Mounting	Multi-positional, constant torque locking hinges			
	Temperature	-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			
Certification and Safety	Certification	UL / cUL, FCC Class A, CE, PSE, C-Tick			
	Environment	Dry / Damp / Wet Location, IP66			

\* 1 ft (305 mm) lumen output measurements comply with IES LM-79-08 testing procedures. 2 ft (610 mm), 3 ft (914 mm), and 4 ft (1219 mm) measurements are estimated based on the 1 ft (305 mm) measurements.



† L70 = 70% lumen maintenance (when light output drops below 70% of initial output). L50 = 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](http://www.philipscolorkinetics.com/support/appnotes/lm-80-08.pdf) for more information.

# Specifications / ColorGraze QLX Powercore

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

Item	Beam Angle	1 ft (305 mm)	2 ft (610 mm)	3 ft (914 mm)	4 ft (1219 mm)
Lumens*	9° x 9°	415	830	1245	1660
	10° x 60°	408	816	1224	1632
	15° x 30°	407	814	1221	1628
	30° x 60°	396	792	1188	1584
	60° x 30°	411	822	1233	1644

Item	Specification	1 ft (305 mm)	2 ft (610 mm)	3 ft (914 mm)	4 ft (1219 mm)
Output	LED Channels	Red / Green / Blue			
	Lumen Maintenance†	80,000 hours L70 @ 25° C 60,000 hours L70 @ 50° C 100,000 hours L50 @ 25° C 80,000 hours L50 @ 50° C			
Electrical	Input Voltage	100 – 277 VAC, auto-ranging, 50 / 60 Hz			
	Power Consumption	15 W max. at full output, steady state	30 W max. at full output, steady state	45 W max. at full output, steady state	60 W max. at full output, steady state
Control	Interface	Data Enabler Pro (DMX or Ethernet)			
	Control System	Philips Color Kinetics full range of controllers, including Light System Manager, iPlayer 3, and ColorDial Pro, or third-party controllers			
Physical	Dimensions (Height x Width x Depth)	2.7 x 12 x 2.8 in (69 x 305 x 71 mm)	2.7 x 24 x 2.8 in (69 x 610 x 71 mm)	2.7 x 36 x 2.8 in (69 x 914 x 71 mm)	2.7 x 48 x 2.8 in (69 x 1219 x 71 mm)
	Weight	2.1 lb (1.0 kg)	4.6 lb (2.1 kg)	7.1 lb (3.2 kg)	9.3 lb (4.2 kg)
	Housing	Extruded anodized aluminum			
	Lens	Clear polycarbonate			
	Fixture Connectors	Integral male / female waterproof connectors			
	Mounting	Multi-positional, constant torque locking hinges			
	Temperature	-40° – 122° F (-40° – 50° C) Operating -4° – 122° F (-20° – 50° C) Startup -40° – 176° F (-40° – 80° C) Storage			
	Humidity	0 – 95%, non-condensing			
	Fixture Run Lengths	To calculate fixture run lengths and total power consumption for your specific installation, download the Configuration Calculator from <a href="http://www.philipscolorkinetics.com/support/install_tool/">www.philipscolorkinetics.com/support/install_tool/</a>			
	Certification and Safety	Certification	UL / cUL, FCC Class A, CE, PSE, C-Tick		
Environment		Dry / Damp / Wet Location, IP66			

\* 1 ft (305 mm) lumen output measurements comply with IES LM-79-08 testing procedures. 2 ft (610 mm), 3 ft (914 mm), and 4 ft (1219 mm) measurements are estimated based on the 1 ft (305 mm) measurements.



† L70 = 70% lumen maintenance (when light output drops below 70% of initial output). L50 = 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](http://www.philipscolorkinetics.com/support/appnotes/lm-80-08.pdf) for more information.

# Specifications / ColorGraze QLX Powercore 5W

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

Item	Beam Angle	1 ft (305 mm)	2 ft (610 mm)	3 ft (914 mm)	4 ft (1219 mm)
Lumens*	9° x 9°	136	272	408	544
	10° x 60°	127	254	381	508
	15° x 30°	128	256	384	512
	30° x 60°	129	258	387	516
	60° x 30°	130	260	390	520

Item	Specification	1 ft (305 mm)	2 ft (610 mm)	3 ft (914 mm)	4 ft (1219 mm)
Output	LED Channels	Red / Green / Blue			
	Lumen Maintenance†	80,000 hours L70 @ 25° C 60,000 hours L70 @ 50° C 100,000 hours L50 @ 25° C 80,000 hours L50 @ 50° C			
Electrical	Input Voltage	100 – 277 VAC, auto-ranging, 50 / 60 Hz			
	Power Consumption	5 W max. at full output, steady state	10 W max. at full output, steady state	15 W max. at full output, steady state	20 W max. at full output, steady state
Control	Interface	Data Enabler Pro (DMX or Ethernet)			
	Control System	Philips Color Kinetics full range of controllers, including Light System Manager, iPlayer 3, and ColorDial Pro, or third-party controllers			
Physical	Dimensions (Height x Width x Depth)	2.7 x 12 x 2.8 in (69 x 305 x 71 mm)	2.7 x 24 x 2.8 in (69 x 610 x 71 mm)	2.7 x 36 x 2.8 in (69 x 914 x 71 mm)	2.7 x 48 x 2.8 in (69 x 1219 x 71 mm)
	Weight	2.1 lb (1.0 kg)	4.6 lb (2.1 kg)	7.1 lb (3.2 kg)	9.3 lb (4.2 kg)
	Housing	Extruded anodized aluminum			
	Lens	Clear polycarbonate			
	Fixture Connectors	Integral male / female waterproof connectors			
	Mounting	Multi-positional, constant torque locking hinges			
	Temperature	-40° – 122° F (-40° – 50° C) Operating -4° – 122° F (-20° – 50° C) Startup -40° – 176° F (-40° – 80° C) Storage			
	Humidity	0 – 95%, non-condensing			
	Fixture Run Lengths	To calculate fixture run lengths and total power consumption for your specific installation, download the Configuration Calculator from <a href="http://www.philipscolorkinetics.com/support/install_tool/">www.philipscolorkinetics.com/support/install_tool/</a>			
	Certification and Safety	Certification	UL / cUL, FCC Class A, CE, PSE, C-Tick		
Environment		Dry / Damp / Wet Location, IP66			

\* 1 ft (305 mm) lumen output measurements comply with IES LM-79-08 testing procedures. 2 ft (610 mm), 3 ft (914 mm), and 4 ft (1219 mm) measurements are estimated based on the 1 ft (305 mm) measurements.



† L70 = 70% lumen maintenance (when light output drops below 70% of initial output). L50 = 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](http://www.philipscolorkinetics.com/support/appnotes/lm-80-08.pdf) for more information.

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# Specifications / ColorGraze EC Powercore

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

Item	Specification	1 ft (305 mm)	2 ft (610 mm)	3 ft (914 mm)	4 ft (1219 mm)
Output	Beam Angle	90° x 90°			
	Lumens*	241	482	723	964
	LED Channels	Red / Green / Blue			
	Lumen Maintenance†	80,000 hours L70 @ 25° C 60,000 hours L70 @ 50° C 100,000 hours L50 @ 25° C 80,000 hours L50 @ 50° C			
Electrical	Input Voltage	100 – 277 VAC, auto-ranging, 50 / 60 Hz			
	Power Consumption	10 W max. at full output, steady state	20 W max. at full output, steady state	30 W max. at full output, steady state	40 W max. at full output, steady state
Control	Interface	Data Enabler Pro (DMX or Ethernet)			
	Control System	Philips Color Kinetics full range of controllers, including Light System Manager, iPlayer 3, and ColorDial Pro, or third-party controllers			
Physical	Dimensions (Height x Width x Depth)	2.7 x 12 x 2.8 in (69 x 305 x 71 mm)	2.7 x 24 x 2.8 in (69 x 610 x 71 mm)	2.7 x 36 x 2.8 in (69 x 914 x 71 mm)	2.7 x 48 x 2.8 in (69 x 1219 x 71 mm)
	Weight	2.1 lb (1.0 kg)	4.6 lb (2.1 kg)	7.1 lb (3.2 kg)	9.3 lb (4.2 kg)
	Housing	Extruded anodized aluminum			
	Lens	Clear polycarbonate			
	Fixture Connectors	Integral male / female waterproof connectors			
	Mounting	Multi-positional, constant torque locking hinges			
	Temperature	-40° – 122° F (-40° – 50° C) Operating -4° – 122° F (-20° – 50° C) Startup -40° – 176° F (-40° – 80° C) Storage			
	Humidity	0 – 95%, non-condensing			
	Fixture Run Lengths	To calculate fixture run lengths and total power consumption for your specific installation, download the Configuration Calculator from <a href="http://www.philipscolorkinetics.com/support/install_tool/">www.philipscolorkinetics.com/support/install_tool/</a>			
	Certification and Safety	Certification	UL / cUL, FCC Class A, CE, PSE, C-Tick		
Environment		Dry / Damp / Wet Location, IP66			

\* 1 ft (305 mm) lumen output measurement complies with IES LM-79-08 testing procedures. 2 ft (610 mm), 3 ft (914 mm), and 4 ft (1219 mm) measurements are estimated based on the 1 ft (305 mm) measurements.



† L70 = 70% lumen maintenance (when light output drops below 70% of initial output). L50 = 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](http://www.philipscolorkinetics.com/support/appnotes/lm-80-08.pdf) for more information.



# Fixtures and Accessories

ColorGraze Powercore fixtures are part of a complete system which includes:

- One or more Data Enabler Pro devices
- Any Philips controller, including Light System Manager, iPlayer 3, and ColorDial Pro, or a third-party controller
- Leader Cables to connect the first fixture in each series to a Data Enabler Pro
- Optional Jumper Cables to add space between fixtures in a series, if necessary
- 3 + ground copper wire to connect Data Enabler Pro devices to a common junction box, if installing fixtures in parallel. Standard 12 AWG (2.05 mm) stranded wire is recommended.

## Custom Configurations

In addition to the standard configurations listed in this Product Guide, custom configurations are also available with non-standard options. See the ColorGraze Powercore Ordering Information sheet at [www.philipscolorkinetics.com/graze/](http://www.philipscolorkinetics.com/graze/) for complete details.

Component	Available Non-Standard Options
LED Sources	Any combination of Red, Green, Blue, Royal Blue, Amber, 2700 K, 3000 K, 3500 K, 4000 K, 4500 K, 5000 K, 5700 K, and 6500 K
Housing Color	Choice of any RAL CLASSIC color except white
Beam Angle <sup>o</sup>	60° x 60°, 90° x 60°
Power Consumption	Factory-set custom power consumption levels

Item	Beam Angle	Item Number	Philips 12NC
ColorGraze MX Powercore 1 ft (305 mm)	9° x 9°	123-000079-00	910503703144
	10° x 60°	123-000079-01	910503703331
	15° x 30°	123-000079-02	910503703332
	30° x 60°	123-000079-03	910503703333
	60° x 30°	123-000079-04	910503703334
ColorGraze MX Powercore 2 ft (610 mm)	9° x 9°	123-000079-05	910503703267
	10° x 60°	123-000079-06	910503703335
	15° x 30°	123-000079-07	910503703336
	30° x 60°	123-000079-08	910503703337
	60° x 30°	123-000079-09	910503703338
ColorGraze MX Powercore 3 ft (914 mm)	9° x 9°	123-000079-10	910503703268
	10° x 60°	123-000079-11	910503703339
	15° x 30°	123-000079-12	910503703340
	30° x 60°	123-000079-13	910503703341
	60° x 30°	123-000079-14	910503703342
ColorGraze MX Powercore 4 ft (1219 mm)	9° x 9°	123-000079-15	910503703269
	10° x 60°	123-000079-16	910503703343
	15° x 30°	123-000079-17	910503703344
	30° x 60°	123-000079-18	910503703345
	60° x 30°	123-000079-19	910503703346
ColorGraze QLX Powercore 1 ft (305 mm)	9° x 9°	123-000079-20	910503703347
	10° x 60°	123-000079-21	910503703348
	15° x 30°	123-000079-22	910503703349
	30° x 60°	123-000079-23	910503703350
	60° x 30°	123-000079-24	910503703351
ColorGraze QLX Powercore 2 ft (610 mm)	9° x 9°	123-000079-25	910503703352
	10° x 60°	123-000079-26	910503703353
	15° x 30°	123-000079-27	910503703354
	30° x 60°	123-000079-28	910503703355
	60° x 30°	123-000079-29	910503703356
ColorGraze QLX Powercore 3 ft (914 mm)	9° x 9°	123-000079-30	910503703357
	10° x 60°	123-000079-31	910503703358
	15° x 30°	123-000079-32	910503703359
	30° x 60°	123-000079-33	910503703360
	60° x 30°	123-000079-34	910503703361
ColorGraze QLX Powercore 4 ft (1219 mm)	9° x 9°	123-000079-35	910503703362
	10° x 60°	123-000079-36	910503703363
	15° x 30°	123-000079-37	910503703364
	30° x 60°	123-000079-38	910503703365
	60° x 30°	123-000079-39	910503703366

Use Item Number when ordering in North America.

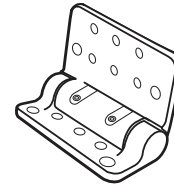
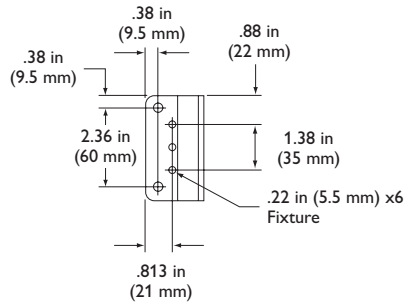
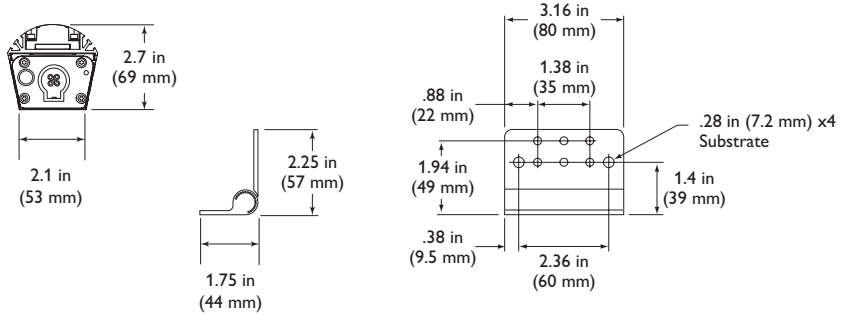
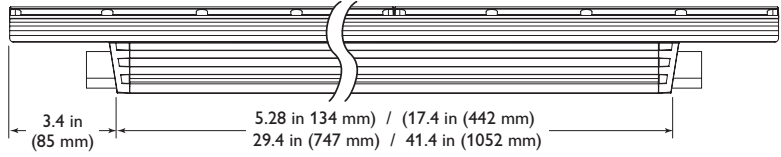
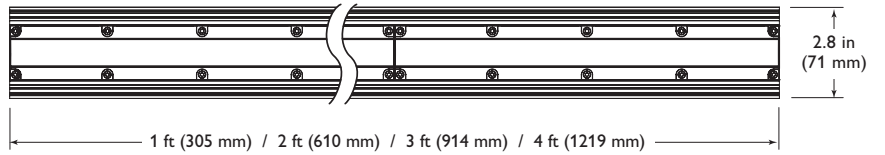
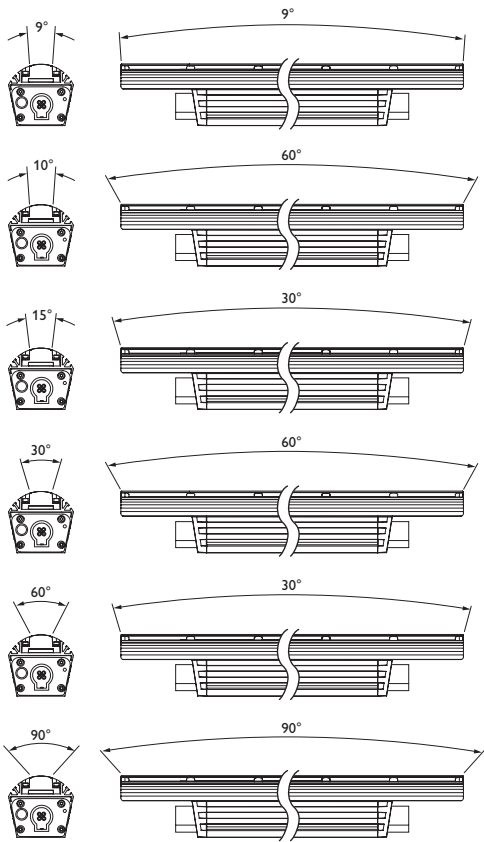
Item	Beam Angle	Item Number	Philips 12NC
ColorGraze QLX Powercore 5W 1 ft (305 mm)	9° x 9°	123-000080-00	910503704063
	10° x 60°	123-000080-01	910503703371
	15° x 30°	123-000080-02	910503703372
	30° x 60°	123-000080-03	910503703373
	60° x 30°	123-000080-04	910503703374
ColorGraze QLX Powercore 5W 2 ft (610 mm)	9° x 9°	123-000080-05	910503703375
	10° x 60°	123-000080-06	910503703376
	15° x 30°	123-000080-07	910503703377
	30° x 60°	123-000080-08	910503703378
	60° x 30°	123-000080-09	910503703379
ColorGraze QLX Powercore 5W 3 ft (914 mm)	9° x 9°	123-000080-10	910503703380
	10° x 60°	123-000080-11	910503703381
	15° x 30°	123-000080-12	910503703382
	30° x 60°	123-000080-13	910503703383
	60° x 30°	123-000080-14	910503703384
ColorGraze QLX Powercore 5W 4 ft (1219 mm)	9° x 9°	123-000080-15	910503703385
	10° x 60°	123-000080-16	910503703386
	15° x 30°	123-000080-17	910503703387
	30° x 60°	123-000080-18	910503703388
	60° x 30°	123-000080-19	910503703389
ColorGraze EC Powercore 1 ft (305 mm)	90° x 90°	123-000079-40	910503703367
ColorGraze EC Powercore 2 ft (610 mm)	90° x 90°	123-000079-41	910503703368
ColorGraze EC Powercore 3 ft (914 mm)	90° x 90°	123-000079-42	910503703369
ColorGraze EC Powercore 4 ft (1219 mm)	90° x 90°	123-000079-43	910503703370

Use Item Number when ordering in North America.

Item	Type	Size	Item Number	Philips 12NC
Leader Cable with Terminator	UL / cUL	10 ft (3.0 m)	108-000055-03	910503704066
		50 ft (15.2 m)	108-000055-00	910503703137
	CE / PSE	10 ft (3.0 m)	108-000055-04	910503704067
		50 ft (15.2 m)	108-000055-01	910503704064
Jumper Cable	UL / cUL	End-to-End	108-000057-00	910503703139
		1 ft (305 mm)	108-000057-03	910503704076
		5 ft (1.5 m)	108-000057-06	910503704079
		10 ft (3.0 m)	108-000057-09	910503704082
		20 ft (6.1 m)	108-000057-12	912400130304
		30 ft (9.1 m)	108-000057-15	912400130306
	CE / PSE	End-to-End	108-000057-01	910503704074
		1 ft (305 mm)	108-000057-04	910503704077
		5 ft (1.5 m)	108-000057-07	910503704080
		10 ft (3.0 m)	108-000057-10	910503704083
		20 ft (6.1 m)	108-000057-13	912400130299
		30 ft (9.1 m)	108-000057-16	912400130307
Glare Shield		1 ft (305 mm)	120-000081-00	910503700745
		2 ft (610 mm)	120-000081-01	910503700746
		3 ft (914 mm)	120-000081-02	910503700747
		4 ft (1219 mm)	120-000081-03	910503700748
Additional Terminators		Quantity 10	120-000157-00	910503703142
Additional Hinge		Quantity 1	120-000098-00	910503700772
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.

# Dimensions



# Installation

ColorGraze Powercore offers vibrant grazing and wall-washing light. Powercore technology, which integrates LED power and data management within the fixture, eases installation by eliminating the need for external power supplies.

## Owner / User Responsibilities

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

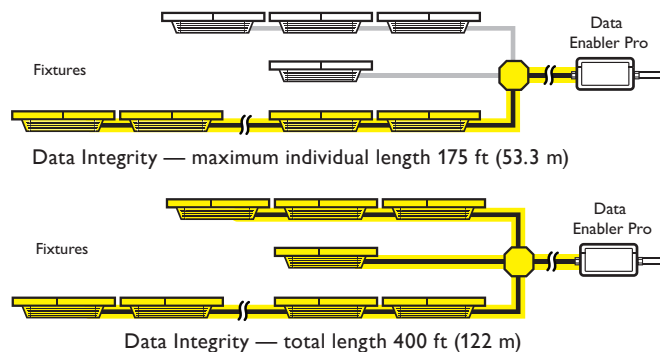
## Installing in Damp or Wet Locations

When installing in damp or wet locations, seal all Data Enabler Pro devices and junction boxes with electronics-grade RTV silicone sealant so that water or moisture cannot enter or accumulate in wiring compartments, cables, or other electrical parts. Use suitable outdoor-rated junction boxes when installing in damp or wet locations. Additionally, 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.
2. ColorGraze 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 length, fixture spacing, circuit size, line voltage, and leader cable length. 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/](http://www.philipscolorkinetics.com/support/install_tool/), or consult Application Engineering Services at [support@colorkinetics.com](mailto:support@colorkinetics.com).

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



\* Refer to the ColorGraze Powercore Installation Instructions for specific warning and caution statements.

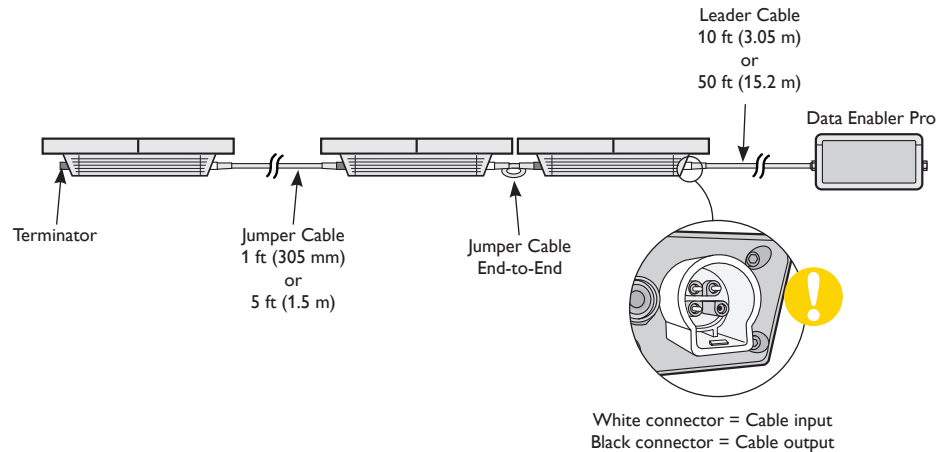
\* Clean the lens with water and mild detergent using a soft cleaning cloth, and wipe dry. Because they will scratch, soften, pit, haze, yellow, mar, or crack the lens, do not use paper towels, abrasive cleaning products, window cleaners, or cleaning solutions containing chemicals such as ammonia, sodium hydroxide, and isopropyl alcohol.



# Mount and Connect Fixtures

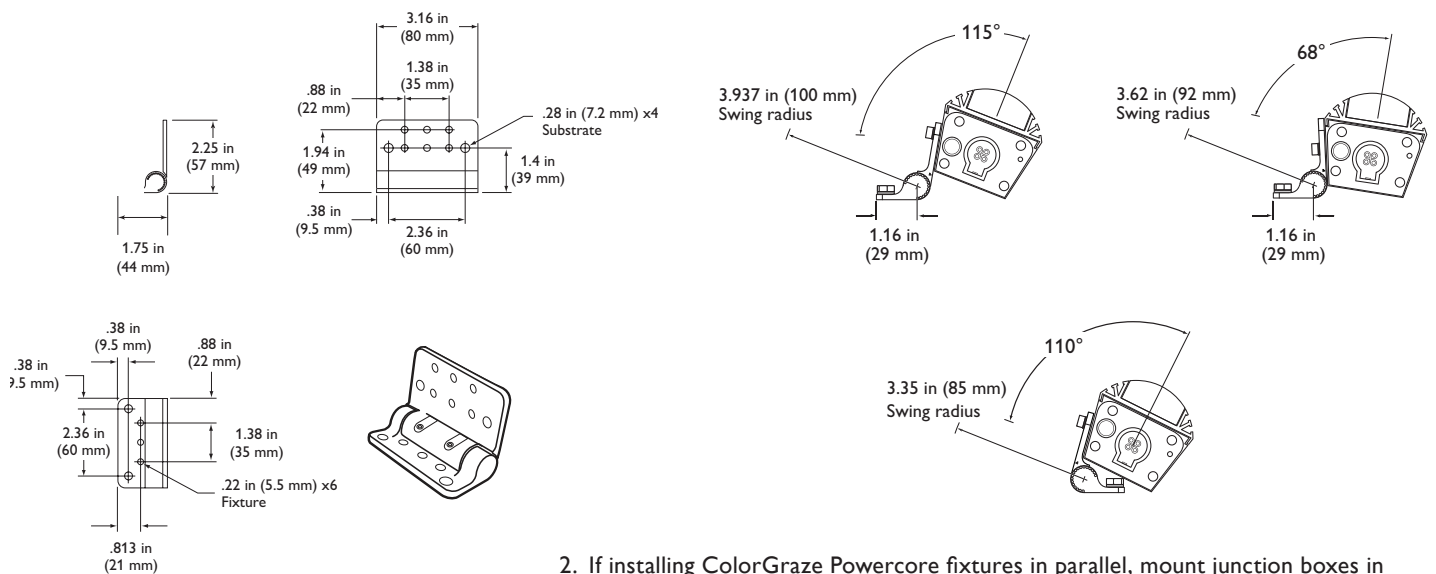
Make sure the power is OFF before mounting and connecting ColorGraze Powercore fixtures.

ColorGraze Powercore fixtures offer bulkhead connectors that accept the ColorGraze Powercore pre-configured Leader and Jumper Cables. Because they have a male connector on one end of the fixture and a female connector on the other end, ColorGraze Powercore fixtures are directional, and must all be oriented in the same direction.



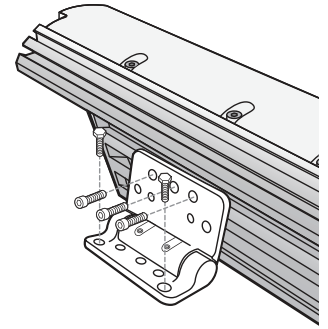
## Mount Fixtures

- Using the included 4 mm hex hardware, attach two hinges to each fixture. There are three possible methods for attaching hinges to the fixtures, each method offering differing degrees of swing radius and space-efficiency. Select the method most suitable for your application.



- If installing ColorGraze Powercore fixtures in parallel, mount junction boxes in accordance with the lighting design plan.
- When installing a linear series of ColorGraze Powercore fixtures, make sure that all fixtures are oriented in the same direction. The white connectors are for cable inputs, and the black connectors are for cable outputs. The Leader Cable connects to the male bulkhead connector on the first fixture in each series.
- Rotate the fixture hinge assemblies into the desired positions. For consistent position control, use the indicators on the side of each hinge knuckle for reference. Use a 2 mm hex key wrench to loosen the set screws, as needed.

- To accommodate installation from various angles, each hinge has four set screws designed to lock the hinge position. All four, or only two, of the set screws may be used, depending on the mounting method and swing radius you select for the hinge. For example, if the hinge leaves are to be fully closed, the interior set screws may not be accessible.



Do not lock the hinges positions at this time; the hinges have a built-in constant torque feature that allows temporary positioning. For optimal light output performance, aim and lock the hinges following installation.

### Make Cable Connections

#### 1. Connect Leader Cables:

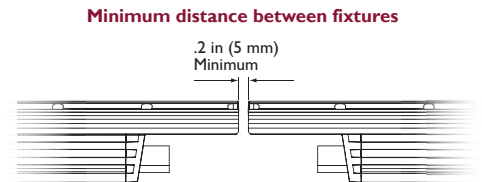
- If installing fixtures in series, run a 10 ft (3.0 m) or 50 ft (15.2 m) Leader Cable from a Data Enabler Pro device to the input side of the first fixture in the series. Push the Leader Cable into the connector to lock it into place.
- If installing fixtures in parallel, run 3 + ground copper wire from a Data Enabler Pro device to a common junction box.

Run Leader Cables from the common junction box to the input side of the first fixture in each series. Push the Leader Cables into the connectors to lock them into place.

Within the common junction box, use wire nuts to connect line, neutral, ground, and data wires. Tuck wire connections into the junction box.

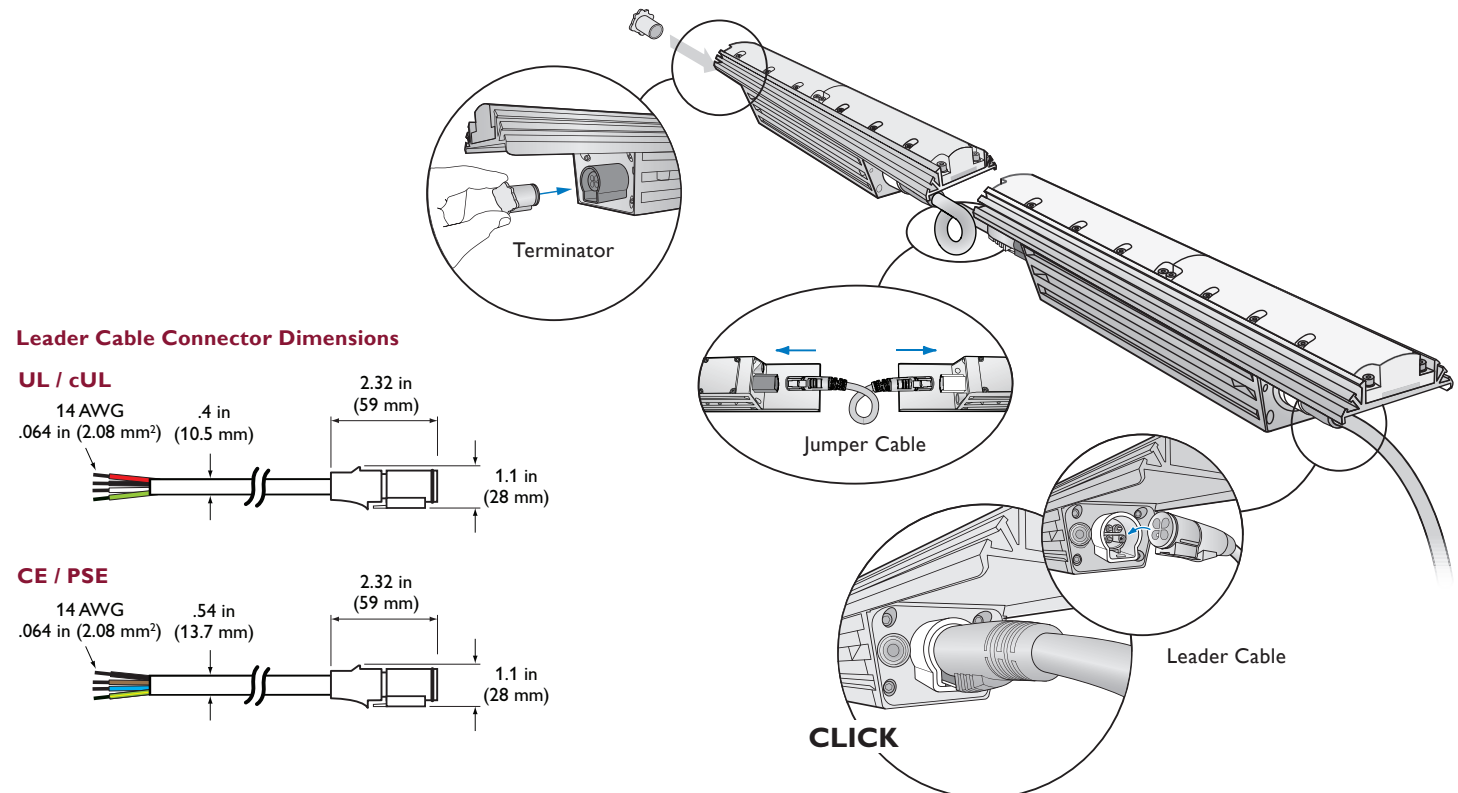
Secure all junction box covers. If installing in a damp or wet location, seal all junction boxes and points of entry with contractor-grade RTV silicone sealant. Use gaskets, clamps, and other parts and fittings required to comply with local outdoor wiring codes.

- Connect all Jumper Cables between fixtures. Push the cable ends into the connectors to lock them into place.
- Insert a terminator into the output side of the last fixture in each series. (Terminators are provided with the ColorGraze Powercore Leader Cables.)



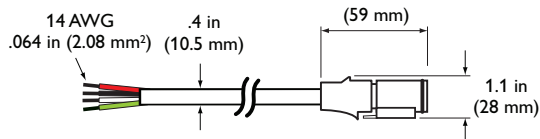
Minimum distance between fixtures

**\*** Be sure to position fixtures close enough together so that Leader Cables and Jumper Cables are not stretched or taut when installed.

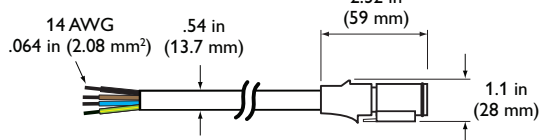


#### Leader Cable Connector Dimensions

##### UL / cUL



##### CE / PSE

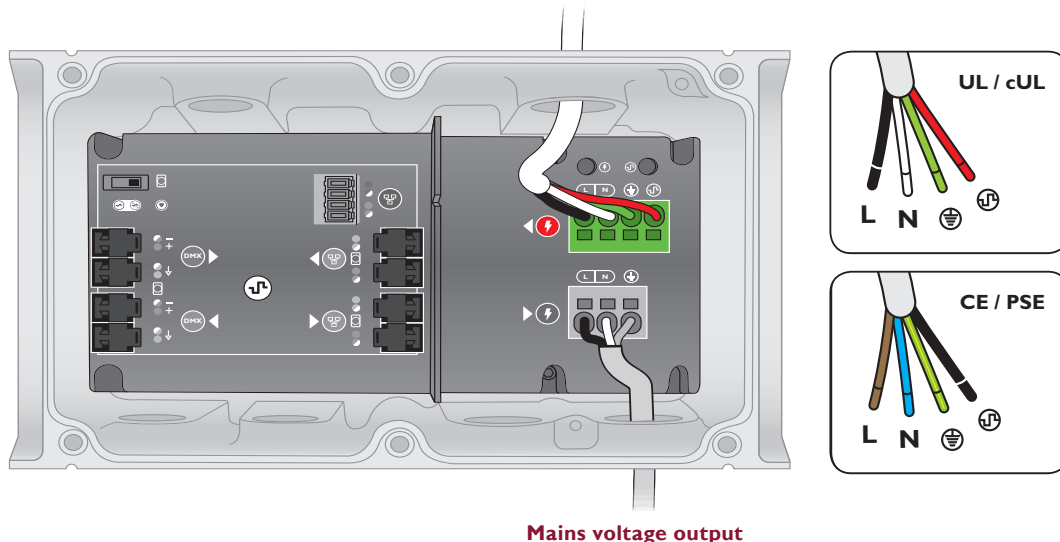




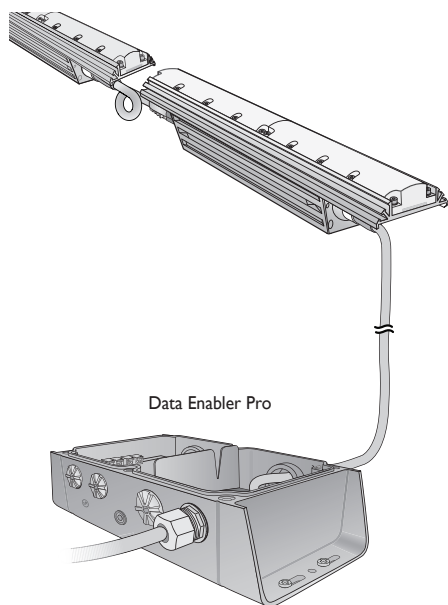
## Make Power Connections

Once you've made all fixture and junction box connections, connect the flying leads from a Leader Cable or 3 + ground wire from a common junction box to the 4-wire PC terminal connector block inside the Data Enabler Pro Housing.

### Power / data output to fixtures



\* Refer to the Data Enabler Pro Product Guide for comprehensive installation and configuration instructions. You can view or download the guide from [www.philipscolorkinetics.com/lis/pds/dataenablerpro](http://www.philipscolorkinetics.com/lis/pds/dataenablerpro)



## Address and Configure the Fixtures

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

To allow a fine level of control, ColorGraze Powercore fixtures are addressable in 1 ft (305 mm) segments, or *nodes*. ColorGraze Powercore fixtures have one, two, three, or four nodes, depending on fixture length, each identified by a unique serial number.

ColorGraze Powercore fixtures operate in 8-bit mode by default. You can configure ColorGraze Powercore to operate in 16-bit mode, which increases fixture resolution for smoother dimming and more precise color control.

In 8-bit mode, fixture nodes use one DMX address per LED channel (red, green, and blue). In 16-bit mode, fixture nodes 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.

DMX Channel Assignments						
8-Bit Mode	1		2		3	
	Red		Green		Blue	
16-Bit Mode	1	2	3	4	5	6
	Red Coarse	Red Fine	Green Coarse	Green Fine	Blue Coarse	Blue Fine

\* You can address fixtures and switch between 8-bit mode and 16-bit mode using QuickPlay Pro. You can download QuickPlay Pro from [www.philipscolorkinetics.com/support/addressing/](http://www.philipscolorkinetics.com/support/addressing/)

Each 1 ft (305 mm) ColorGraze Powercore node comes factory-addressed with a starting DMX address of 1. For lighting designs where fixture nodes work in unison, all nodes can be assigned the same DMX addresses. Changes to the default addresses are not necessary, but if nodes were previously readdressed for use in other installations, you must reset them. For light show designs that show different colors on different nodes simultaneously, you must assign unique DMX addresses to your nodes and sort them in a useful order.

- In Ethernet installations, you can address and configure fixture nodes using QuickPlay Pro with a computer connected to your lighting installation's network. QuickPlay Pro can automatically discover all fixture nodes, controllers, and Data Enabler Pro devices for quick configuration.
- In DMX installations, you can address and configure fixture nodes using QuickPlay Pro with iPlayer 3 or SmartJack Pro. You can manually enter fixture node serial numbers, or you can import a spreadsheet listing each fixture node's serial number and starting DMX address.

\* You can download QuickPlay Pro from [www.philipscolorkinetics.com/support/addressing](http://www.philipscolorkinetics.com/support/addressing).

\* You will need the layout grid that you created when you recorded the serial numbers of the light fixtures in your installation.

For details on addressing and configuring fixtures, controllers, and power / data supplies with QuickPlay Pro, refer to the *Addressing and Configuration Guide*, which you can view or download at [www.philipscolorkinetics.com/support/addressing](http://www.philipscolorkinetics.com/support/addressing).

### Setting Fixture Dimming Curves

Dimming curves describe how slowly or quickly a fixture dims at different levels of input. For finer control, ColorGraze Powercore offers three different dimming curves for use in different situations and applications:

- **Normal**  
The non-linear (gamma) dimming curve used in most Philips Color Kinetics LED lighting fixtures. ColorGraze Powercore fixtures use the normal dimming curve by default.
- **Linear**  
A dimming curve with a linear relationship between power input and DMX output.
- **Tungsten**  
A non-linear dimming curve that emulates the dimming curve of incandescent lamps on a DMX dimmer. This curve offers the most control at low intensities.

### Setting LED Transition Speed

Normally, LEDs react to DMX or other control data instantaneously. In some cases, you may want to slow down the reaction speed to achieve smoother transitions when the intensity of different LED channels changes. ColorGraze Powercore offers five levels of decreasing LED transition speed, from Fast (instant snap changes) to Delay-4 (slowest transition speed).

### Maximizing Fixture-to-Fixture Consistency

Optibin, our advanced binning algorithm, sets an industry-leading standard for the color consistency and uniformity of LED sources used in manufacturing. Chromasync technology enhances the performance of Optibin by maximizing fixture-to-fixture color consistency within an installation. By using active measurements of each fixture's color range taken during manufacturing, Chromasync achieves a common gamut for all ColorGraze Powercore fixtures, regardless of LED sources used or date of manufacture.

Chromasync is especially valuable in lighting designs that feature combinations of two or more saturated colors (RGB white, yellow, and cyan, and so on). In the case of RGB white, for example, Chromasync can reduce color variations across ColorGraze Powercore fixtures from 10 or more MacAdam ellipse steps to as little as four MacAdam ellipse steps.

\* Note that Chromasync achieves a common gamut at the expense of some intensity of output — from a negligible loss to 10% or more, depending on color.

While Chromasync does not calibrate colors with an external reference or standard, it accelerates commissioning of systems by eliminating the need for tedious fine-tuning of individual fixtures.

⊛ Do not look directly into a fixture when aiming and locking.

⊛ The hinge position set screws have factory applied thread lock. Confirm the fixture angle and positioning before locking each hinge.

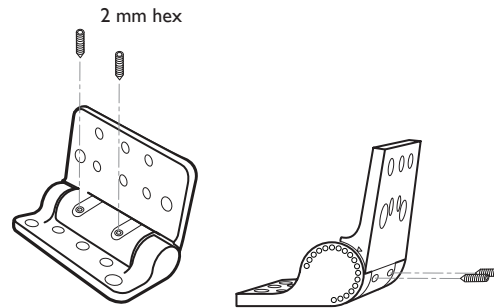
## Aim and Lock the Fixtures

Make sure power is ON before aiming fixtures.

Rotate the fixtures to achieve the optimal angle for light output. For consistent position control, use the indicators on the side of each hinge knuckle as reference.

For fine horizontal adjustment, you can change the position of the hinge mounting block located on the side of each fixture. Loosen the set screw with a 2.5 mm hex key, slide the mounting block to the desired position, then tighten the set screw.

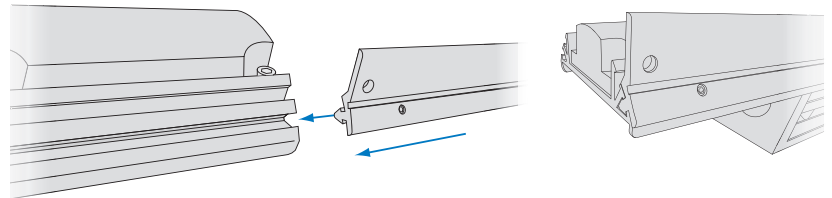
Once satisfied with fixture angles and positioning, use a 2 mm hex key wrench to tighten the hinge position set screws and lock each hinge.



## Attach Glare Shields (Optional)

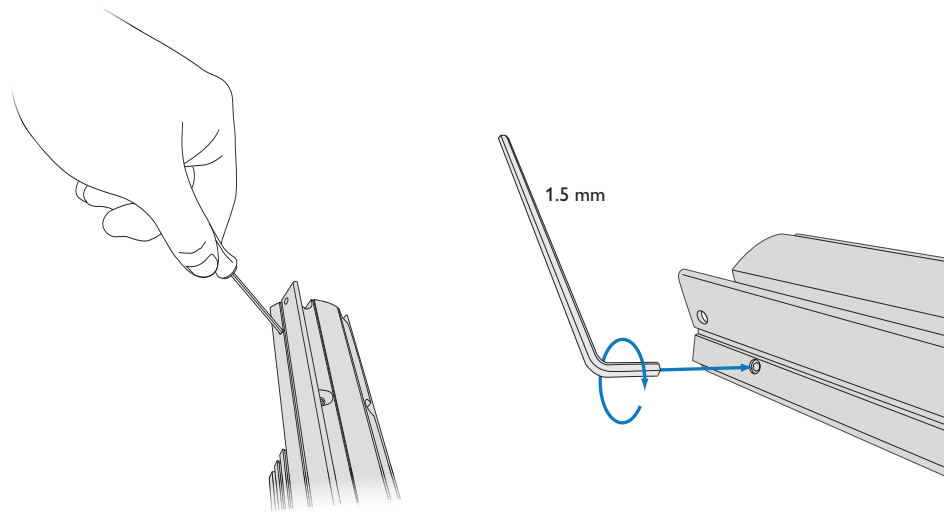
Glare Shields, in 1 ft (305 mm), 2 ft (610 mm), 3 ft (914 mm), and 4 ft (1.2 m) lengths, can be inserted in the grooves in the ColorGraze Powercore housing. Glare Shields block unwanted spill light, and can shield the light sources from being directly visible in certain mounting situations.

1. Insert the Glare Shield's triangular tab in the outer groove on the side of the ColorGraze Powercore housing.



2. Using a hex wrench, tighten the locking screws to hold the Glare Shield in place.
3. (Optional) Attach a tether to the knockout in the Glare Shield, and affix the tether to a secure anchor point.

- Using a small screwdriver, hand-tighten all set screws. Using a 1.5 mm hex wrench, torque the set screws to approximately 3.5 in-lbs (4 kgf/cm) to hold the Glare Shield in place.



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