

ColorGraze IntelliHue Powercore

Date: _____
Type: _____
Firm Name: _____
Project: _____

100 to 277 VAC, 9° x 9°, 914 mm (3 ft)

Linear exterior LED wall grazing luminaires with IntelliHue technology

Graze is a high-performance, exterior linear luminaire designed to highlight architectural features ranging from surface textures and molding details to archways and windows. Graze IntelliHue utilizes Color Kinetics IntelliHue technology to produce millions of saturated colors, pastels, and high quality white light, in the same precisely controllable luminaire. Multiple fixture lengths, and beam angles support a large range of façade or surface illumination applications. Low-profile housing, connectorized cabling, a universal power input range, and direct line voltage operation make Graze luminaires easy to install and operate.



- Tailor light output to specific applications—Available in four standard lengths (1 ft, 2 ft, 3 ft, and 4 ft), and five standard 9° x 9°, 10° x 60°, 15° x 30°, 30° x 60°, and 60° x 30° beam angles.
- Color-changing and high-quality white light from the same luminaire—IntelliHue is an advanced approach to color mixing that enables high-quality intelligent color and white light from a single luminaire. Multiple channels of LED light sources combine to produce a full spectrum of precisely controllable light, including millions of saturated colors, pastels, and uniform white light with CRI of greater than 80 in the 2700 K to 4000 K range.
- Improves color consistency between all LED luminaires in a family with Chromasync technology. During the manufacturing process a calibrated light measurement device creates an algorithm to define a common color gamut for an entire family of LED luminaires. When Chromasync is enabled, color consistency between fixtures is achieved without having to manually adjust color points on each luminaire.
- Integrates patented Powercore technology that controls power output to luminaires directly from line voltage – rapidly, efficiently, and accurately. The Color Kinetics Data Enabler Pro merges line voltage with control data and delivers them to luminaires over a single standard cable, dramatically simplifying installation and lowering total system cost.
- Graze provides years of reliable use under rugged conditions. Graze raises reliability even further with more protection from corrosion by meeting ASTM B117 standard and ANSI C136.31-2010 standard with a 3G vibration rating, and elimination of water pooling on the lens.
- Works seamlessly with the Color Kinetics full range of controllers, including Light System Manager, Video System Manager, Video System Manager Pro, iPlayer 3, Antumbra iColor Keypad, and ColorDial Pro—as well as third-party controllers.
- Convenient push-and-click connectors let you easily and rapidly install Leader Cables and Jumper Cables. Constant torque locking hinges offer simple and consistent position control from various angles.

For detailed product information, please refer to the ColorGraze IntelliHue Powercore Product Guide at www.colorkinetics.com/ls/IntelliHue/ColorGraze-Powercore/

Specifications

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

Output

Beam Angle	9° x 9°
Lumens All Channels Full On [†]	2,061
Lumens @ 2700 K	1,332
Lumens @ 4000 K	1,608
Efficacy (lm/W) All Channels Full On ^{§§}	38.8
Efficacy (lm/W) @ 2700 K	47.8
Efficacy (lm/W) @ 4000 K	45.8
CRI All Channels Full On	-
CRI @ 2700 K	86.7
CRI R9 @ 2700 K	93.2
CRI @ 4000 K	81.3
CRI R9 @ 4000 K	48.8
LED Channels	Red/Green/Blue/Mint White

Electrical

Input Voltage	100 to 277 VAC, auto-ranging, 50/60 Hz
Power Consumption	55.5 W
Power Factor	> 0.9 @ 100 to 240 VAC > 0.85 @ 277 VAC

For Surge Protection Requirements for LED Lighting Systems, please refer to www.colorkinetics.com/KB/surge-protection.

Control

Interface	Data Enabler Pro (DMX or Ethernet)
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Control System

Color Kinetics full range of controllers, including Light System Manager, Video System Manager Pro, iPlayer 3, Antumbra iColor Keypad, and ColorDial Pro, or third-party controllers

Remote Monitoring & Management	ActiveSite Ready, works with Interact Landmark
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Lumen Maintenance

Threshold [§]	Ambient Temperature	Reported [¶]	Calculated [¶]
L ₇₀	25 °C	70,000	> 100,000
	50 °C	65,000	> 100,000
L ₅₀	25 °C	75,000	
	50 °C	70,000	

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

[§] L_{xx} = xx% lumen maintenance (when light output drops below xx% of initial output). All values are given at B10, or the median value where 90% of the LED population is better than the reported or calculated lumen maintenance measurement.

[¶] Lumen maintenance figures are based on lifetime prediction graphs supplied by LED source manufacturers. Whenever possible, figures use measurements that comply with IES LM-80-08 testing procedures. In accordance with TM-21-11, Reported values represent the interpolated value based on six times the LM-80-08 total test duration (in hours). Calculated values represent time durations that exceed six times the total test duration.

^{§§} Efficacy measurements are estimated based on the 305 mm (1 ft) measurements.

Physical

Dimensions (Height x Width x Depth)	68 x 915 x 72 mm (2.7 x 36 x 2.85 in)
Weight	3.2 kg (7.1 lb)
Housing Material	Extruded anodized aluminium
Lens	Clear UV-protected polycarbonate
Luminaire Connections	Integral male/female waterproof connectors
Specs Mounting Title	Multi-positional, constant torque locking hinges

Temperature Ranges

-40 to 50 °C (-40 to 122 °F) Operating
-20 to 50 °C (-4 to 122 °F) Startup
-40 to 80 °C (-40 to 176 °F) Storage

Vibration Resistance

Not compliant to ANSI C136.31, 3G. Special orders are available to conform to the standard. Please contact your Color Kinetics Lighting Sales rep for custom configurations.

Mechanical Impact	IK10
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Corrosion Resistance

Complies with ASTM B117 standard with special order. Please contact your Color Kinetics Lighting Sales rep for custom configurations.

Humidity	0 to 95%, non-condensing
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Luminaire Run Lengths

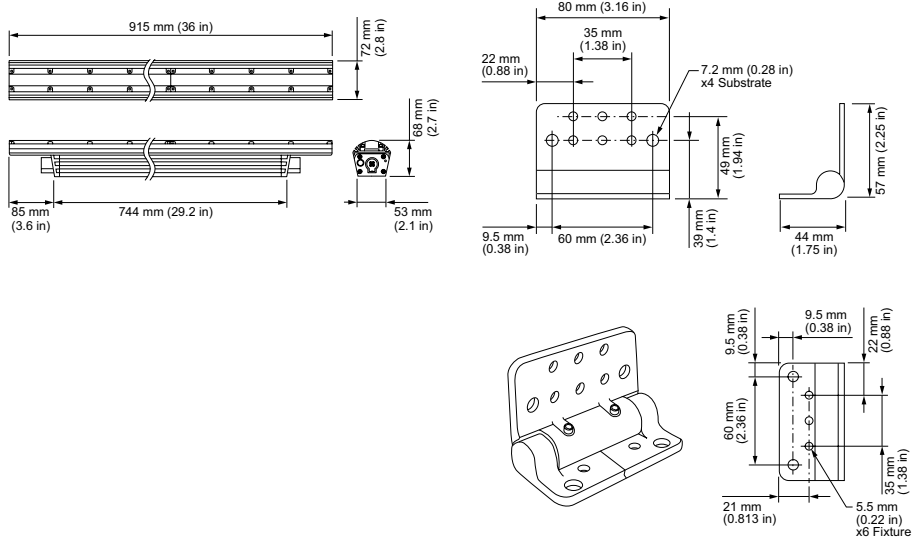
To calculate luminaire run lengths and total power consumption for your specific installation, download the Configuration Calculator from www.colorkinetics.com/support/install_tool/

Certification and Safety

Approbation	UL/cUL, FCC Class A, CE, PSE, CQC, C-Tick
Environment	Dry/Damp/Wet Location, IP66



Dimensions



Photometrics, 9° x 9° beam angle, 305 mm (1 ft), full on

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

Beam Angle	9° x 9°
LEDs	All Channels Full On
Lumens All Channels Full On	687
Efficacy (lm/W) All Channels Full On	38.8

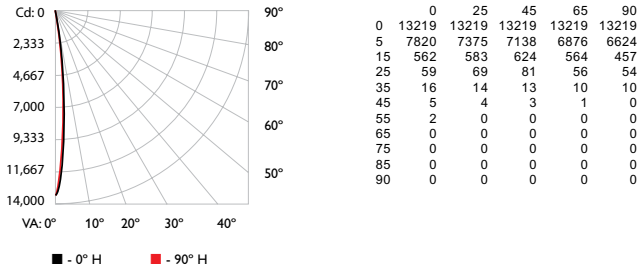


Illuminance at Distance

Center Beam fc	Beam Width
4 ft: 826.20 fc	0.8 ft 0.8 ft
8 ft: 506.55 fc	1.5 ft 1.5 ft
12 ft: 91.80 fc	2.3 ft 2.3 ft
16 ft: 51.64 fc	3.1 ft 3.1 ft
20 ft: 33.05 fc	3.8 ft 3.8 ft
24 ft: 22.95 fc	4.6 ft 4.6 ft

115 ft (35 m)
1 fc maximum distance
Vert. Spread: 10.9°
Horiz. Spread: 10.9°

Polar Candela Distribution



Zonal Lumen

Zone	Lumens	% Luminaire
0-30	676.1	98.5%
0-40	684.1	99.6%
0-60	686.7	100.0%
60-90	0.0	0.0%
70-100	0.0	0.0%
90-120	0.0	0.0%
0-90	686.7	100.0%
90-180	0.0	0.0%
0-180	686.7	100.0%

For lux multiply fc by 10.7

Coefficients of Utilization - Zonal Cavity Method

RCC %:	Effective Floor Cavity Reflectance: 20%														
	80			70			50			30			10		
RW %:	70	50	30	0	70	50	30	0	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	1.02
	1	1.16	1.14	1.13	1.11	1.14	1.12	1.11	0.99	1.08	1.07	1.06	1.05	1.04	1.03
	2	1.13	1.11	1.08	1.06	1.11	1.09	1.07	0.98	1.06	1.04	1.03	1.03	1.02	1.01
	3	1.11	1.07	1.05	1.03	1.09	1.06	1.04	0.97	1.04	1.02	1.00	1.02	1.00	0.99
	4	1.09	1.05	1.02	1.00	1.07	1.04	1.01	0.96	1.02	1.00	0.98	1.00	0.98	0.97
	5	1.07	1.03	1.00	0.97	1.06	1.02	0.99	0.94	1.00	0.98	0.96	0.99	0.97	0.96
	6	1.05	1.01	0.98	0.96	1.04	1.00	0.97	0.93	0.99	0.97	0.95	0.98	0.96	0.94
	7	1.04	0.99	0.96	0.94	1.03	0.99	0.96	0.92	0.98	0.95	0.94	0.97	0.95	0.93
	8	1.02	0.98	0.95	0.93	1.01	0.97	0.95	0.92	0.96	0.94	0.92	0.96	0.94	0.92
	9	1.01	0.96	0.94	0.92	1.00	0.96	0.93	0.91	0.95	0.93	0.91	0.95	0.93	0.91
	10	1.00	0.95	0.92	0.91	0.99	0.95	0.92	0.90	0.94	0.92	0.90	0.94	0.92	0.90

Photometrics, 9° x 9° beam angle, 305 mm (1 ft), 2700 K

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

Beam Angle	9° x 9°
LEDs at	2700 K
Lumens @ 2700 K	444
Efficacy (lm/W) @ 2700 K	47.8

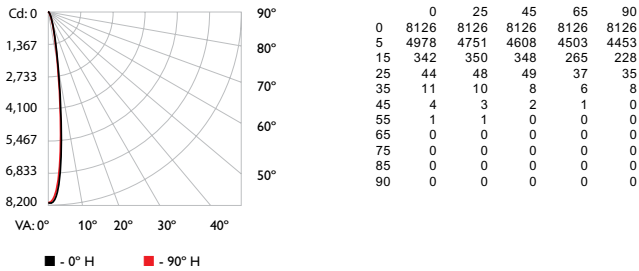


Illuminance at Distance

	Center Beam fc	Beam Width
4 ft	507.84 fc	0.8 ft 0.8 ft
8 ft	126.96 fc	1.6 ft 1.6 ft
12 ft	56.43 fc	2.4 ft 2.4 ft
16 ft	31.74 fc	3.2 ft 3.3 ft
20 ft	20.31 fc	4 ft 4.1 ft
24 ft	14.11 fc	4.8 ft 4.9 ft

90 ft (27.4 m)
1 fc maximum distance
 Vert. Spread: 11.4°
 Horiz. Spread: 11.7°

Polar Candela Distribution



Zonal Lumen

Zone	Lumens	% Luminaire
0-30	451.8	98.3%
0-40	457.5	99.6%
0-60	459.5	100.0%
60-90	0.0	0.0%
70-100	0.0	0.0%
90-120	0.0	0.0%
0-90	459.5	100.0%
90-180	0.0	0.0%
0-180	459.5	100.0%

For lux multiply fc by 10.7

Coefficients of Utilization - Zonal Cavity Method

RCC %:	80	70	50	30	10	0		
RW %:	70	50	30	20	50	30	20	0
Effective Floor Cavity Reflectance: 20%								
RCC:	0	1.19	1.19	1.19	1.16	1.16	1.16	1.00
1	1.16	1.14	1.13	1.11	1.14	1.12	1.11	0.99
2	1.13	1.11	1.08	1.06	1.11	1.09	1.07	0.98
3	1.11	1.07	1.05	1.02	1.09	1.06	1.04	0.97
4	1.09	1.05	1.02	1.00	1.07	1.04	1.01	0.95
5	1.07	1.03	1.00	0.97	1.06	1.02	0.99	0.94
6	1.05	1.01	0.98	0.96	1.04	1.00	0.97	0.93
7	1.04	0.99	0.96	0.94	1.03	0.98	0.96	0.92
8	1.02	0.98	0.95	0.93	1.01	0.97	0.94	0.91
9	1.01	0.96	0.93	0.91	1.00	0.96	0.93	0.91
10	0.99	0.95	0.92	0.90	0.99	0.95	0.92	0.90

Photometrics, 9° x 9° beam angle, 305 mm (1 ft), 4000 K

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

Beam Angle	9° x 9°
LEDs at	4000 K
Lumens @ 4000 K	536
Efficacy (lm/W) @ 4000 K	45.8

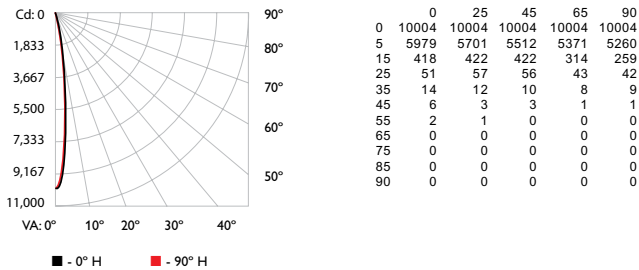


Illuminance at Distance

	Center Beam fc	Beam Width
4 ft	625.28 fc	0.8 ft 0.8 ft
8 ft	156.32 fc	1.6 ft 1.6 ft
12 ft	69.48 fc	2.3 ft 2.4 ft
16 ft	39.08 fc	3.1 ft 3.2 ft
20 ft	25.01 fc	3.9 ft 4 ft
24 ft	17.37 fc	4.7 ft 4.8 ft

100 ft (30.5 m)
1 fc maximum distance
 Vert. Spread: 11.2°
 Horiz. Spread: 11.3°

Polar Candela Distribution



Zonal Lumen

Zone	Lumens	% Luminaire
0-30	526.6	98.2%
0-40	533.5	99.5%
0-60	536.2	100.0%
60-90	0.0	0.0%
70-100	0.0	0.0%
90-120	0.0	0.0%
0-90	536.2	100.0%
90-180	0.0	0.0%
0-180	536.2	100.0%

For lux multiply fc by 10.7

Coefficients of Utilization - Zonal Cavity Method

RCC %:	80	70	50	30	10	0		
RW %:	70	50	30	20	50	30	20	0
Effective Floor Cavity Reflectance: 20%								
RCC:	0	1.19	1.19	1.19	1.16	1.16	1.16	1.00
1	1.16	1.14	1.13	1.11	1.14	1.12	1.11	0.99
2	1.13	1.11	1.08	1.06	1.11	1.09	1.07	0.98
3	1.11	1.07	1.05	1.02	1.09	1.06	1.04	0.97
4	1.09	1.05	1.02	1.00	1.07	1.04	1.01	0.95
5	1.07	1.03	1.00	0.97	1.06	1.02	0.99	0.94
6	1.05	1.01	0.98	0.96	1.04	1.00	0.97	0.93
7	1.04	0.99	0.96	0.94	1.03	0.98	0.96	0.92
8	1.02	0.98	0.95	0.93	1.01	0.97	0.94	0.91
9	1.01	0.96	0.93	0.91	1.00	0.96	0.93	0.91
10	1.00	0.95	0.92	0.90	0.99	0.95	0.92	0.90

Luminaire and Accessories

Use Item Number when ordering in North America

Luminaire	Item Number	Item 12NC
ColorGraz IntellIHue Powercore 100 to 277 VAC, 9° x 9°, 914 mm (3 ft)	423-000016-10	912400135885
Accessories		
Inground Enclosure, Outer Box for 914 mm (3 ft) luminaire	120-000190-05	912400133689
Inground Enclosure, Inner Box for 914 mm (3 ft) luminaire	120-000190-04	912400133688
Leader Cable with Terminator, UL/cUL, 3 m (10 ft)	108-000055-03	910503704066
Leader Cable with Terminator, UL/cUL, 15.2 m (50 ft)	108-000055-00	910503703137
Leader Cable with Terminator, CE/PSE, 3 m (10 ft)	108-000055-07	910503705065
Leader Cable with Terminator, CE/PSE, 15.2 m (50 ft)	108-000055-06	910503705064
Jumper Cable, UL/cUL, End-to-End	108-000057-00	910503703139
Jumper Cable, UL/cUL, 305 mm (1 ft)	108-000057-03	910503704076
Jumper Cable, UL/cUL, 1.5 m (5 ft)	108-000057-06	910503704079
Jumper Cable, UL/cUL, 3 m (10 ft)	108-000057-09	910503704082
Jumper Cable, CE/PSE, End-to-End	108-000057-01	910503704074
Jumper Cable, CE/PSE, 305 mm (1 ft)	108-000057-04	910503704077
Jumper Cable, CE/PSE, 1.5 m (5 ft)	108-000057-07	910503704080
Jumper Cable, CE/PSE, 3 m (10 ft)	108-000057-10	910503704083
Glare Shield, 914 mm (3 ft)	120-000081-02	910503700747
Mounting Arm, Short, Gray	120-000201-03	912400135843
Mounting Arm, Medium, Gray	120-000201-04	912400135844
Mounting Arm, Long, Gray	120-000201-05	912400135845
Masking Shield, 914 mm (3 ft)	120-000203-02	912400135859
Symmetric Louver, 914 mm (3 ft)	120-000202-02	912400135851
Power/Data Supplies		
Data Enabler Pro, 3/4 in / 1/2 in NPT (U.S. trade size conduit)	106-000004-00	910503701210
Data Enabler Pro, PG21/PG13 (metric size conduit)	106-000004-01	910503701211



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Color Kinetics
www.colorkinetics.com/Is/IntelliHue/ColorGraz-Powercore/