

ColorGraze IntelliHue Powercore

Date: _____

Type: _____

Firm Name: _____

Project: _____

100 to 277 VAC, 60° x 30°, 305 mm (1 ft)

Exterior linear grazing luminaire with intelligent white and color light

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 luminaire 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 luminaires 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 by meeting 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, 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 Graze Product Guide at www.colorkinetics.com/global/products/intellihue/colorgraze-powercore/

Specifications

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

Output

Beam Angle	60° x 30°
Lumens All Channels Full On [†]	692
Lumens @ 2700 K	433
Lumens @ 4000 K	521
Efficacy (lm/W) All Channels Full On ^{§§}	38.7
Efficacy (lm/W) @ 2700 K	47
Efficacy (lm/W) @ 4000 K	44.6
CRI All Channels Full On	–
CRI @ 2700 K	87.1
CRI @ 4000 K	81.4
CRI @ 4000 K	81.4
CRI R9 @ 4000 K	41.5
LED Channels	Red/Green/Blue/Mint White

Electrical

Input Voltage	100 to 277 VAC, auto-ranging, 50/60 Hz
Power Consumption	18.5 W
Power Factor	> 0.9 @ 100 to 240 VAC > 0.85 @ 277 VAC
Surge Limits ^{¶¶}	1 kV maximum differential (L to N) 2 kV maximum common (L to Gnd or N to Gnd)

For additional 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, iPlayer 3, Antumbra iColor Keypad, and ColorDial Pro, or third-party controllers

Remote Monitoring & Management Works with Interact Landmark

Lumen Maintenance

Threshold§	Ambient Temperature	Reported ^{¶¶}	Calculated ^{¶¶}
L 70	25 °C	70000	> 100,000
	50 °C	65000	> 100,000
L 50	25 °C	75000	
	50 °C	70000	

Physical

Dimensions (Height x Width x Depth)	68 x 305 x 72 mm (2.7 x 12 x 2.85 in)
Weight	1 kg (2.1 lb)
Housing Material	Extruded anodized aluminium
Lens	Clear UV-protected polycarbonate
Luminaire Connections	Integral male/female waterproof connectors
Mounting	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

Complies with ANSI C136.31, 3G	
Mechanical Impact	IK10

Corrosion Resistance

Not suitable for salt spray or harsh chemical environments. Please refer to www.colorkinetics.com/KB/corrosion-resistance for more information.

Humidity	0 to 95%, non-condensing
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Thermal Protection enabled

For additional Thermal Protection information, please refer to <https://colorkinetics.helpdocs.io/article/sh301ducix>

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

For additional Energy Efficiency Class Information, please refer to <https://colorkinetics.helpdocs.io/article/cviis2p8qq>.



[†] 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.

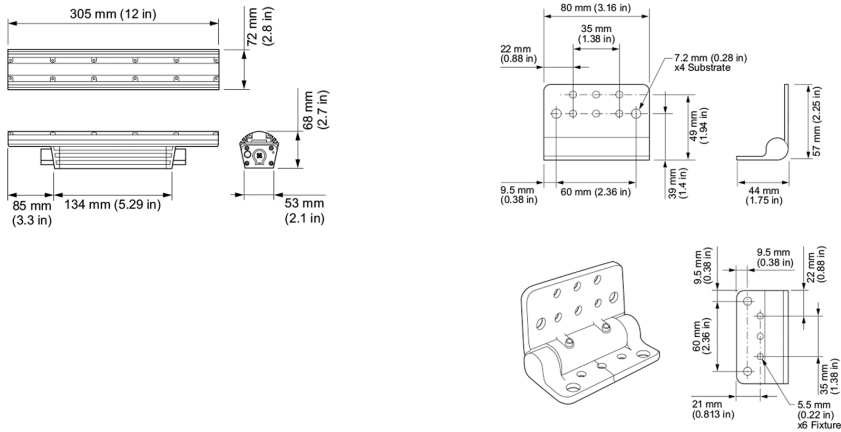
§ Lxx = xx% lumen maintenance (when light output drops below xx% of initial output). All values are given at B10, or the median value where 90% of the LED population is better than the reported or calculated lumen maintenance measurement.

¶ Minimum surge limits per IEC 61547, tested in accordance with IEC 61000-4-5.

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

¶¶ 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.

Dimensions



Photometrics 60° x 30° 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/global/support/ies.

Beam Angle	60° x 30°
LEDs	All Channels Full On
Lumens All Channels Full On	692.0
Efficacy (lm/W) All Channels Full On	38.7



Illuminance at Distance

	Center Beam fc	Beam Width
4 ft	70.44 fc	4.4 ft 2.4 ft
8 ft	17.61 fc	8.9 ft 4.8 ft
12 ft	7.83 fc	13.3 ft 7.1 ft
16 ft	4.40 fc	17.8 ft 9.5 ft
20 ft	2.82 fc	22.2 ft 11.9 ft
24 ft	1.96 fc	26.7 ft 14.3 ft

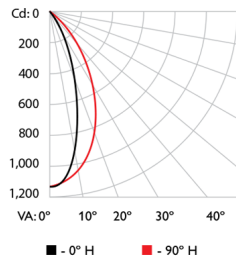
33.5 ft (10.2 m)
1 fc maximum distance
Vert. Spread: 33.2°
Horiz. Spread: 58.1°

Zonal Lumen

Zone	Lumens	% Luminaire
0-30	524.3	75.6%
0-40	630.3	90.9%
0-60	685.3	98.8%
60-90	8.1	1.2%
70-100	1.3	0.2%
90-120	0.0	0.0%
0-90	693.5	100.0%
90-180	0.0	0.0%
0-180	693.5	100.0%

For lux multiply fc by 10.7

Polar Candela Distribution



	0	25	45	65	90
0	1127	1127	1127	1127	1127
5	1075	1068	1077	1095	1094
15	668	696	790	898	952
25	239	282	397	564	685
35	60	77	131	243	360
45	21	24	37	74	120
55	12	12	14	22	30
65	6	6	7	8	9
75	1	1	1	1	2
85	0	0	0	0	0
90	0	0	0	0	0

Coefficients of Utilization - Zonal Cavity Method

	Effective Floor Capacity Reflectance: 20%																			
RCC %:	80				70				50				30				10			
RW %:	70	50	30	0	70	50	30	0	50	30	20	10	50	30	20	10	50	30	20	10
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	0.94	1.02	1.03	1.01	1.01	1.00	0.98	0.98	0.97	0.96	0.94		
2	1.08	1.04	1.00	0.96	1.06	1.02	0.98	0.88	0.99	0.96	0.93	0.91	0.93	0.91	0.93	0.91	0.89	0.88		
3	1.03	0.97	0.92	0.88	1.01	0.95	0.91	0.83	0.93	0.89	0.86	0.90	0.87	0.85	0.88	0.86	0.83	0.82		
4	0.98	0.91	0.86	0.81	0.96	0.90	0.85	0.78	0.88	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.77		
5	0.94	0.85	0.80	0.76	0.92	0.85	0.79	0.73	0.83	0.78	0.75	0.81	0.77	0.74	0.80	0.76	0.73	0.72		
6	0.89	0.81	0.75	0.71	0.88	0.80	0.74	0.69	0.78	0.74	0.70	0.77	0.73	0.70	0.76	0.72	0.69	0.68		
7	0.85	0.76	0.71	0.67	0.84	0.76	0.70	0.65	0.74	0.70	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.64		
8	0.81	0.72	0.67	0.63	0.80	0.72	0.66	0.62	0.71	0.66	0.62	0.70	0.65	0.62	0.69	0.65	0.62	0.60		
9	0.78	0.69	0.63	0.59	0.77	0.68	0.63	0.58	0.67	0.62	0.59	0.66	0.62	0.59	0.66	0.62	0.59	0.57		
10	0.75	0.65	0.60	0.56	0.74	0.65	0.60	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.63	0.59	0.56	0.54		

60° x 30° beam angle, 305 mm (1 ft), 2700 K

Beam Angle	60° x 30°
LEDs at	2700 K
Lumens @ 2700 K	433
Efficacy (lm/W) @ 2700 K	47



Illuminance at Distance

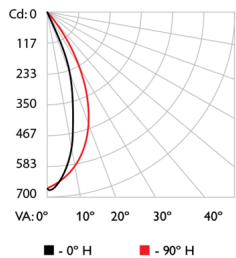
	Center Beam fc	Beam Width
4 ft	41.72 fc	4.6 ft 2.4 ft
8 ft	10.43 fc	9.3 ft 4.8 ft
12 ft	4.64 fc	13.9 ft 7.2 ft
16 ft	2.61 fc	18.5 ft 9.6 ft
20 ft	1.67 fc	23.1 ft 12 ft
24 ft	1.16 fc	27.8 ft 14.3 ft

25.8 ft (7.9 m)
1 fc maximum distance
Vert. Spread: 33.3°
Horiz. Spread: 60.1°

Zonal Lumen

Zone	Lumens	% Luminaire
0-30	321.5	74.2%
0-40	392.2	90.5%
0-60	428.4	98.9%
60-90	4.7	1.1%
70-100	0.8	0.2%
90-120	0.0	0.0%
0-90	433.1	100.0%
90-180	0.0	0.0%
0-180	433.1	100.0%

Polar Candela Distribution



	0	25	45	65	90
0	668	668	668	668	668
5	641	624	631	636	638
15	398	400	448	504	540
25	146	163	220	304	374
35	38	46	73	126	188
45	13	14	21	38	61
55	7	7	8	11	14
65	3	3	4	4	4
75	0	0	0	0	1
85	0	0	0	0	0
90	0	0	0	0	0

Coefficients of Utilization - Zonal Cavity Method

	80					Effective Floor					Cavity					Reflectance: 20%						
RCC %:	80	70	50	30	10	80	70	50	30	10	80	70	50	30	10	80	70	50	30	10	0	
RW %:	70	50	30	0	50	30	0	50	30	20	50	30	20	50	30	20	50	30	20	50	30	20
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	1.08	1.06	1.11	1.09	1.07	0.94	1.05	1.03	1.01	1.01	1.00	0.98	0.98	0.96	0.95	0.94				
2	1.08	1.03	0.99	0.96	1.06	1.02	0.98	0.88	0.98	0.95	0.93	0.95	0.93	0.91	0.93	0.91	0.89	0.87				
3	1.03	0.97	0.92	0.88	1.01	0.95	0.91	0.82	0.93	0.89	0.86	0.90	0.87	0.84	0.88	0.85	0.83	0.82				
4	0.98	0.91	0.85	0.81	0.96	0.89	0.84	0.77	0.87	0.83	0.80	0.85	0.82	0.79	0.83	0.80	0.78	0.76				
5	0.93	0.85	0.79	0.75	0.92	0.84	0.79	0.73	0.82	0.78	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.71				
6	0.89	0.80	0.74	0.70	0.87	0.79	0.74	0.68	0.78	0.73	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.67				
7	0.85	0.76	0.70	0.66	0.83	0.75	0.70	0.64	0.74	0.69	0.65	0.73	0.68	0.65	0.71	0.68	0.65	0.63				
8	0.81	0.72	0.66	0.62	0.80	0.71	0.66	0.61	0.70	0.65	0.62	0.69	0.65	0.61	0.68	0.64	0.61	0.60				
9	0.77	0.68	0.62	0.58	0.76	0.67	0.62	0.58	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.58	0.56				
10	0.74	0.65	0.59	0.55	0.73	0.64	0.59	0.55	0.63	0.58	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.54				

Photometrics 60° x 30° 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/global/support/ies.

Beam Angle	60° x 30°
LEDs at	4000 K
Lumens @ 4000 K	521
Efficacy (lm/W) @ 4000 K	44.6



Illuminance at Distance

	Center Beam fc	Beam Width
4 ft	50.74 fc	4.6 ft 2.4 ft
8 ft	12.69 fc	9.2 ft 4.8 ft
12 ft	5.64 fc	13.9 ft 7.2 ft
16 ft	3.17 fc	18.5 ft 9.6 ft
20 ft	2.03 fc	23.1 ft 12 ft
24 ft	1.41 fc	27.7 ft 14.5 ft

28.5 ft (9 m)
1 fc maximum distance
Vert. Spread: 33.5°
Horiz. Spread: 60°

Zonal Lumen

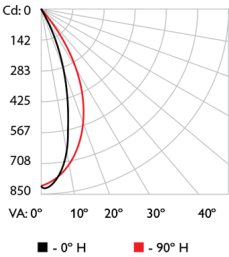
Zone	Lumens	% Luminaire
0-30	391.6	74.2%
0-40	477.9	90.5%
0-60	522.2	98.9%
60-90	5.8	1.1%
70-100	1.0	0.2%
90-120	0.0	0.0%
0-90	528.0	100.0%
90-180	0.0	0.0%
0-180	528.0	100.0%

For lux multiply fc by 10.7

Coefficients of Utilization – Zonal Cavity Method

		Effective Floor Cavity Reflectance: 20%											
RCC %:	80	70	50	30	10	0	80	70	50	30	10	0	
RW %:	70	50	30	0	70	50	30	0	50	30	20	0	
RCR:	0	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.00	
	1	1.14	1.11	1.08	1.06	1.11	1.09	1.07	0.94	1.05	1.03	1.01	
	2	1.08	1.03	0.99	0.96	1.06	1.02	0.98	0.88	0.96	0.93	0.91	
	3	1.03	0.97	0.92	0.88	1.01	0.95	0.91	0.82	0.93	0.89	0.86	
	4	0.98	0.90	0.85	0.81	0.96	0.89	0.84	0.77	0.87	0.83	0.80	
	5	0.93	0.85	0.79	0.75	0.92	0.84	0.79	0.73	0.82	0.78	0.74	
	6	0.89	0.80	0.74	0.70	0.87	0.79	0.74	0.68	0.78	0.73	0.69	
	7	0.85	0.76	0.70	0.66	0.83	0.75	0.69	0.64	0.74	0.69	0.65	
	8	0.81	0.72	0.66	0.62	0.80	0.71	0.66	0.61	0.70	0.65	0.61	
	9	0.77	0.68	0.62	0.58	0.76	0.67	0.62	0.58	0.67	0.62	0.58	
	10	0.74	0.65	0.59	0.55	0.73	0.64	0.59	0.55	0.63	0.58	0.55	

Polar Candela Distribution



	0	25	45	65	90
0	812	812	812	812	812
5	785	768	770	776	777
15	496	502	554	618	653
25	185	205	272	374	449
35	48	57	89	154	224
45	16	17	25	45	71
55	8	8	10	13	17
65	4	4	4	5	5
75	1	0	0	0	1
85	0	0	0	0	0
90	0	0	0	0	0

Luminaire and Accessories

Use Item Number when ordering in North America

Luminaire	Item Number	Item 12NC
ColorGraze IntelliHue Powercore, 100 to 277 VAC, 60° x 30°, 305 mm (1 ft)	423-000016-04	912400135879
Accessories		
4 Conductor Leader Cable, 100 to 277 VAC, 3 m (10 ft), UL	108-000055-03	910503704066
4 Conductor Leader Cable, 100 to 277 VAC, 15.2 m (50 ft), UL	108-000055-00	910503703137
4 Conductor Leader Cable, 100 to 277 VAC, 3 m (10 ft), CE/PSE	108-000055-04	910503704067
4 Conductor Leader Cable, 100 to 277 VAC, 15.2 m (50 ft), CE/PSE	108-000055-01	910503704064
4 Conductor Leader Cable, 100 to 277 VAC, 3 m (10 ft), BIS	108-000055-13	912400137373
4 Conductor Leader Cable, 1.52 m (5 ft), UL, for Inground Enclosure	108-000055-09	912400134321
4 Conductor Leader Cable, 1.52 m (5 ft), CE, for Inground Enclosure	108-000055-10	912400134322
Jumper Cable for use with Graze, UL/cUL, End-to-End	108-000057-00	910503703139
Jumper Cable for use with Graze, UL/cUL, 305 mm (1 ft)	108-000057-03	910503704076
Jumper Cable for use with Graze, UL/cUL, 1.5 m (5 ft)	108-000057-06	910503704079
Jumper Cable for use with Graze, CE/PSE, End-to-End	108-000057-01	910503704074
Jumper Cable for use with Graze, CE/PSE, 305 mm (1 ft)	108-000057-04	910503704077
Jumper Cable for use with Graze, CE/PSE, 1.5 m (5 ft)	108-000057-07	910503704080
Jumper Cable for use with Graze, BIS, End-to-End	108-000057-18	912400137377
Jumper Cable for use with Graze, BIS, 1.5 m (5 ft)	108-000057-19	912400137378
Architectural Mounting Arm, Short, Gray	120-000206-00	912400136642
Architectural Mounting Arm, Medium, Gray	120-000206-01	912400136643
Architectural Mounting Arm, Long, Gray	120-000206-02	912400136644
Symmetric Louver, 305 mm (1 ft)	120-000202-00	912400135849
Masking Shield, 305 mm (1 ft)	120-000203-00	912400135857
Graze Glare Shield, 305 mm (1 ft)	120-000081-00	910503700745
Inground Enclosure, Outer Box for 305 mm (1 ft) luminaire	120-000190-01	912400133685
Inground Enclosure, Inner Box for 305 mm (1 ft) luminaire	120-000190-00	912400133684
Power 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

