Project		Catalog #		Type	
Prepared by		Notes		Date	

NeoRay

Define Geo - Quad

Suspended Mount Direct + Indirect
Surface Mount Direct

Typical Applications

Education • Healthcare • Hospitality • Office • Retail • Transit

Interactive Menu

Product Certifications

Product Features

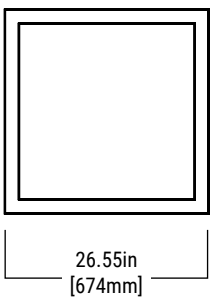
Connected Systems · damp location · Efficiency Standards T24 California Title 24 Non-Residential Compliant * · BAA Buy American Act Compliant Options Available

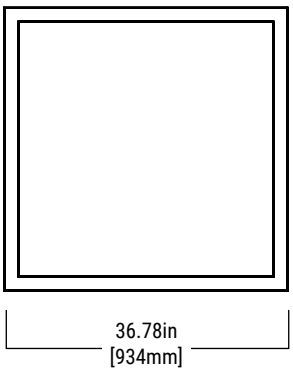
* Self-tested by Cooper Lighting. Not a third party certification.

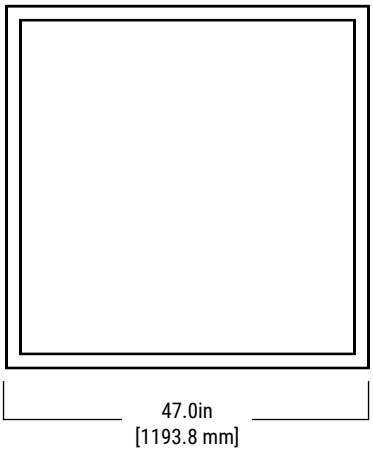
Top Product Features

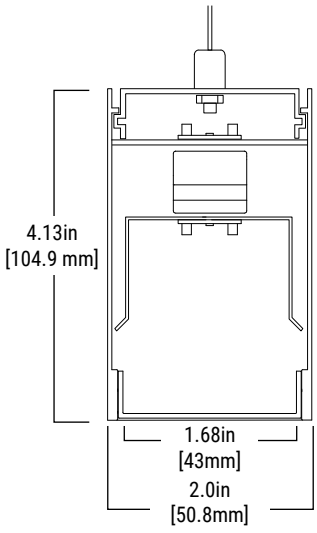
- Single-piece luminaire with direct and direct + indirect output
- Available in 2ft, 3ft, and 4ft nominal footprint sizes
- Direct and Indirect output up to 16,000Lm each direction
- Frosted lens available for direct and indirect Illumination
- Solid aluminum collector option Coming Soon!

Dimensions









Order Information

SAMPLE ORDER NUMBER: **DFN2DIP-SQ4F0-060D060US935-FLLONL-1DUDD-WN10T1W**

Domestic Preference	Body		Pattern	
	Series	Direction & Location	Pattern Type	Size
BAA = Buy American Act	**DFN2** = Define Geo 2in Aperture	**DIP** = Direct & Indirect Suspended **DP** = Direct Only Suspended **DS** = Direct Only Surface	**SQ** = Quad (Square)	**2F0** = 2ft **3F0** = 3ft **4F0** = 4ft
Notes Only product configurations with this "BAA" designation are built to be compliant with the Buy American Act of 1933 (BAA). Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.	**Notes**	**Notes**	**Notes**	**Notes** Sizes are based on approximate diameter of the footprint (ie. 2F0 = 2ft is approximate 2ft diameter). See Dimensions section for more detail.

Output				Optics	
Direct Output	Indirect Output	Performance	CRI/CCT	Direct Optics	Indirect Optics
030D = 3000 Lm Direct **040D** = 4000 Lm Direct **050D** = 5000 Lm Direct **060D** = 6000 Lm Direct **070D** = 7000 Lm Direct **080D** = 8000 Lm Direct **090D** = 9000 Lm Direct **100D** = 10000 Lm Direct **110D** = 11000 Lm Direct **120D** = 12000 Lm Direct **140D** = 14000 Lm Direct **160D** = 16000 Lm Direct **_D** = Custom Lm Direct **Reference table on the next page for available output levels by shape and size.**	**[Blank]** = None **030U** = 3000 Lm Indirect **040U** = 4000 Lm Indirect **050U** = 5000 Lm Indirect **060U** = 6000 Lm Indirect **070U** = 6000 Lm Indirect **080U** = 8000 Lm Indirect **090U** = 9000 Lm Indirect **100U** = 10000 Lm Indirect **110U** = 11000 Lm Indirect **120U** = 12000 Lm Indirect **140U** = 14000 Lm Indirect **160U** = 16000 Lm Indirect **_U** = Custom Lm Indirect **Reference table on the next page for available output levels by shape and size.**	**S** = Standard	**830** = 2700K, 80CRI **835** = 3000K, 80CRI **840** = 4000K, 80CRI **850** = 5000K, 80CRI **927** = 2700K, 90CRI **930** = 3000K, 90CRI **935** = 3500K, 90CRI **940** = 4000K, 90CRI **950** = 5000K, 90CRI	**FLL** = Frosted Lens Diffuse (formerly F)	**[Blank]** = None **ONL** = Open No Lens
Notes Leave Indirect Output blank with Direct Only luminaire Specify Custom Lumen Output to the nearest 100Lm	**Notes**	**Notes** Performance is based off 3500K 80CRI. Reference Lumen Adjustment Factors table for more detail.	**Notes**	**Notes** Leave blank with Direct Only luminaire Open No Lens (ONL) is an Open Top (ie. no dust cover) with Lambertian distribution

Electrical			
Circuiting	Emergency Options	Voltage	Controls
1 = Single Circuit **2** = Dual Circuit	**D** = None (Standard) **E** = Emergency Circuit **T** = UL924 Bypass Relay Device	**U** = Universal (120V-277V) **3** = 347V	**DD** = Standard 0-10V (1%-100%) **WaveLinx Wireless (*Coming Soon!*)*** **WPS** = WaveLinx Pro Integrated Sensor (formerly WAA) **WLS** = WaveLinx Lite Integrated Sensor (formerly WAB)
Notes Dual Circuit (2) allows for independent Direct and Indirect Circuits	**Notes**	**Notes** 347V (3) available with Standard 0-10V (DD) Controls option only	**Notes** *Wavelinx integration Coming Soon! Contact factory. Sensors are mounted on the inside of the luminaire with Suspended/Pendant (P) luminaires only. See Controls details below. Tilemount Sensors are provided with Surface (S) luminaires. Sensors combined with Emergency Circuit require one UL924 Bypass Relay per emergency fixture. Sensors are available with Single Circuit (1) option only

Options				Special Options
Body Finish	Suspension Type	Ceiling Type	Mounting Hardware Color	
W = White **S** = Silver **B** = Black (Semi-Gloss) **BM** = Black (Matte) **RR** = Real Red **OO** = Oasis Orange **YY** = Yippee Yellow **GG** = Gracious Green **CC** = Cyprus Cyan **TT** = Totally Turquoise **BB** = Biosphere Blue **PP** = Perfect Purple **VV** = Vacation Violet **MM** = Magic Magenta **C** = Custom Color (RAL) **CM** = Custom Color (Match)	**No Collector** **N04** = 4ft Air Craft Cable (No Collector) **N10** = 10ft Air Craft Cable (No Collector) **N20** = 20ft Air Craft Cable (No Collector) **N30** = 30ft Air Craft Cable (No Collector) **Collector (*Coming Soon!*)*** **C04** = 4ft Air Craft Cable (with Collector) **C10** = 10ft Air Craft Cable (with Collector) **C20** = 20ft Air Craft Cable (with Collector) **C30** = 30ft Air Craft Cable (with Collector) **SMT** = Surface Mount (Ceiling)	**T1** = 15/16in T-Grid **T9** = 9/16in T-Grid **TS** = 9/16in Slotted, Tegular, or Interlude T-Grid **JB** = J-Box / Structure	**[Blank]** = None **W** = White **B** = Black	**[Blank]** = None **AM** = Angle Mount *Coming Soon*
Notes Custom colors and finishes are available as ETO	**Notes** *Collectors Coming Soon! Contact factory. The No Collector options (N##) have three independent mounting points. The Collector options (C##) collect three cables to a single mounting point. See Mounting Section Surface Mount (SMT) available with Surface (S) luminaire only	**Notes** All T-Grid options (T1, T9, and TS) are compatible with Flat Lay-In Panels and Tegular Panels	**Notes** Leave blank with Surface Mount (SMT) luminaire	**Notes** Angle Mount (AM) enables angled mounting of the No Collector (N) Suspension Type options only.

Product Specifications

Construction
- Extruded 6063 Aluminum
- Single piece housing with fully luminous corners
- Constructed using precision mitered housing and lens components
- Extrusions are welded to ensure a precise and robust housing
- Patented solution provides consistent illumination with no pixelation
- Acrylic substrate lensing for down-light
- Driver accessible from below. Removable 22 gauge cold rolled steel trays for down light.

Diameters
- Available in 2ft, 3ft, and 4ft nominal footprints

Finish
- Electrostatically applied polyester powder coat paint

Optics
- FLL: Frosted lens (Diffuse) with lambertian distribution
- Indirect ONL: Open No Lens is an Open Top (ie. no dust cover) with Lambertian distribution

LED and Light Engine
- Available in 2700K, 3000K, 3500K, 4000K, 5000K
- CRI ≥80CRI or ≥90CRI
- Please refer to scaling data and IES files for other variables
- Nominal output will vary based on selected color and distribution.
- Performance is based on 3500K, 80CRI
- Extrapolated LED lifetime per TM-21:
  Greater than L90 at 61,000 hrs
  L70 exceeding 100,000 hrs
- Available in 120-277V, 347V

Mounting
- Adjustable aircraft cables for balancing
- Refer to installation instructions for various ceiling interface details

Integrated Controls
- 0-10V dimming to 1% standard
- WaveLinx integration coming soon

Emergency Options
- UL 924 emergency/generator transfer options available

Weight
- Max weight:
  2ft: 26 pounds
  3ft: 30 pounds
  4ft: 35 pounds

Compliance
- UL listed for damp locations
- Tested to IESNA LM-79 and LM-80
- Can be used for State of California Title 24 high efficacy luminaire

Warranty
- Five year limited warranty
  www.cooperlighting.com/legal

Available Output Levels

	2ft	3ft	4ft
2000 Lm	✕ ○ △ ⬠ ⬡	✕	
3000 Lm	✕ ○ △ ⬠ ⬡ □	✕ ○ △ ⬠ ⬡	✕
4000 Lm	✕ ○ △ ⬠ ⬡ □	✕ ○ △ ⬠ ⬡ □	✕ ○ △ ⬠ ⬡
5000 Lm	○ △ ⬠ ⬡ □	✕ ○ △ ⬠ ⬡ □	✕ ○ △ ⬠ ⬡
6000 Lm	○ △ ⬠ ⬡ □	✕ ○ △ ⬠ ⬡ □	✕ ○ △ ⬠ ⬡ □
7000 Lm	□	○ △ ⬠ ⬡ □	✕ ○ △ ⬠ ⬡ □
8000 Lm	□	○ △ ⬠ ⬡ □	✕ ○ △ ⬠ ⬡ □
9000 Lm		○ △ ⬠ ⬡ □	○ △ ⬠ ⬡ □
10000 Lm		□	○ △ ⬠ ⬡ □
11000 Lm		□	○ △ ⬠ ⬡ □
12000 Lm		□	△ ⬠ ⬡ □
14000 Lm			□
16000 Lm			□

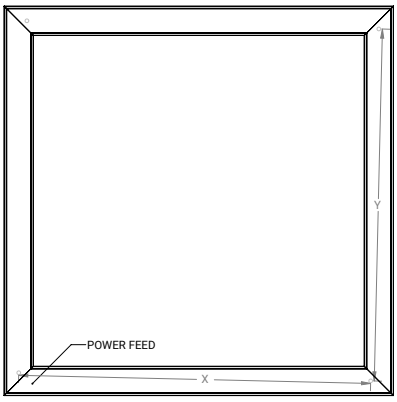
Mounting

Aircraft Cable (No Collector)

Surface

Mounting - Collector Coming Soon!

Mounting - Dimensions



Direction	2ft (2F0)	3ft (3F0)	4ft (4F0)
X	24in	34.25in	44.5in
Y	24in	34.25in	44.5in

Sizes

4ft

3ft

2ft

Standard Finish Options

W - White

S - Silver

B - Black
Semi-Gloss

BM - Black
Matte

RR - Real Red
RAL 3020
Gloss

OO - Oasis Orange
RAL 2004
Gloss

YY - Yippee Yellow
RAL 1018
Gloss

GG - Gracious Green
RAL 6018
Gloss

CC - Cyprus Cyan
RAL 6027
Gloss

TT - Totally Turquoise
RAL 5018
Gloss

BB - Bioshere Blue
RAL 5017
Gloss

PP - Perfect Purple
RAL 4005
Gloss

VV - Vacation Violet
RAL 4008
Gloss

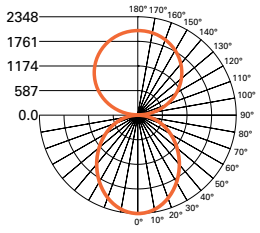
MM - Magic Magenta
RAL 4010
Gloss

RAL & custom colors available as ETO

Note: Not all available finish combinations are shown. Custom Colors available as ETO.

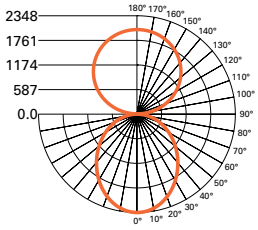
Photometric Data

2ft



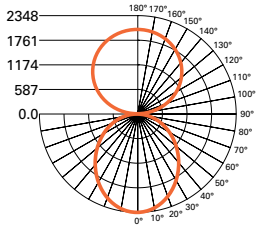
FILE NAME:
DFN2DIP-SQ2F0-060D060US835-FLLONL.ies
CCT/CRI: 3500K / 80 CRI
LUMENS: 11880.0 Lm
WATTS: 100.9W
EFFICACY: 117.7 Lm/W
TEST NO.: P906281
50% UP / 50% DOWN

3ft



FILE NAME:
DFN2DIP-SQ3F0-060D060US835-FLLONL.ies
CCT/CRI: 3500K / 80 CRI
LUMENS: 11880.0 Lm
WATTS: 98.5 W
EFFICACY: 120.6 Lm/W
TEST NO.: P906421
50% UP / 50% DOWN

4ft



FILE NAME:
DFN2DIP-SQ4F0-060D060US835-FLLONL.ies
CCT/CRI: 3500K / 80 CRI
LUMENS: 11880.0 Lm
WATTS: 95.2W
EFFICACY: 124.8 Lm/W
TEST NO.: P906665
50% UP / 50% DOWN

Note: Refer to IES files for more product data.

Lumen Maintenance

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours) (1)	Theoretical L70 (Hours) (2)
25°C	>90%	>100,000

Notes: (1) Supported by IES TM-21 standards. (2) Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, that explains proper use of IES TM-21 and LM-80.

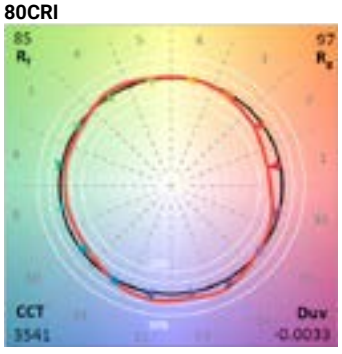
Lumen Adjustment Factors

CCT	80CRI	90CRI
2700K	N/A	0.792
3000K	0.943	0.815
3500K	1.000	0.861
4000K	1.010	0.892
5000K	1.010	0.892

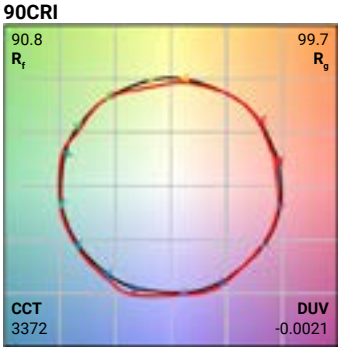
Color Data (3500K)

		80CRI	90CRI
TM-30-15	R_f	85.3	90.8
	R_g	97.3	99.7
CRI/CIE	R_a	85.2	94.8
	R_9	17.2	70.7

80CRI



90CRI



Energy and Performance Data - Direct Frosted Lens (FLL) and Indirect Open No Lens (ONL)

2FT Square | 80CRI | 3500K | Direct Frosted Lens (FLL) and Indirect Open No Lens (ONL)**								Glare	
Direct Lumen Package	Indirect Lumen Package	Direct Lm	Indirect Lm	Total Lm	Total W	Lm/W	% Distribution Direct/Indirect	*Max UGR Ring (4H 8H 70/50/20)	Max Luminance (45-90 deg)
030D	-	2970	0	2970	26.7	111.24	100% / 0%	18.7	1050
	030U	2970	2970	5940	45.8	129.69	50% / 50%	13.9	1050
	040U	2970	3960	6930	52.5	132.00	43% / 57%	13.2	1050
	050U	2970	4950	7920	60.5	130.91	38% / 63%	12.6	1050
	060U	2970	5940	8910	68.9	129.32	33% / 67%	12.1	1050
	070U	2970	6930	9900	77.5	127.74	30% / 70%	11.6	1050
	080U	2970	7920	10890	88	123.75	27% / 73%	11.2	1050
040D	-	3960	0	3960	37.4	105.88	100% / 0%	19.7	1400
	030U	3960	2970	6930	56.5	122.65	57% / 43%	15.5	1400
	040U	3960	3960	7920	63.2	125.32	50% / 50%	14.9	1400
	050U	3960	4950	8910	71.2	125.14	44% / 56%	14.3	1400
	060U	3960	5940	9900	79.6	124.37	40% / 60%	13.8	1400
	070U	3960	6930	10890	88.2	123.47	36% / 64%	13.4	1400
	080U	3960	7920	11880	98.7	120.36	33% / 67%	13.1	1400
050D	-	4950	0	4950	47.9	103.34	100% / 0%	20.4	1750
	030U	4950	2970	7920	67	118.21	63% / 38%	16.8	1750
	040U	4950	3960	8910	73.7	120.90	56% / 44%	16.2	1750
	050U	4950	4950	9900	81.7	121.18	50% / 50%	15.6	1750
	060U	4950	5940	10890	90.1	120.87	45% / 55%	15.2	1750
	070U	4950	6930	11880	98.7	120.36	42% / 58%	14.8	1750
	080U	4950	7920	12870	109.2	117.86	38% / 62%	14.4	1750
060D	-	5940	0	5940	58.7	101.19	100% / 0%	21.1	2100
	030U	5940	2970	8910	77.8	114.52	67% / 33%	17.7	2100
	040U	5940	3960	9900	84.5	117.16	60% / 40%	17.2	2100
	050U	5940	4950	10890	92.5	117.73	55% / 45%	16.7	2100
	060U	5940	5940	11880	100.9	117.74	50% / 50%	16.3	2100
	070U	5940	6930	12870	109.5	117.53	46% / 54%	15.9	2100
	080U	5940	7920	13860	120	115.50	43% / 57%	15.6	2100
070D	-	6930	0	6930	71.4	97.06	100% / 0%	21.6	2450
	030U	6930	2970	9900	90.5	109.39	70% / 30%	18.6	2450
	040U	6930	3960	10890	97.2	112.04	64% / 36%	18	2450
	050U	6930	4950	11880	105.2	112.93	58% / 42%	17.6	2450
	060U	6930	5940	12870	113.6	113.29	54% / 46%	17.2	2450
	070U	6930	6930	13860	122.2	113.42	50% / 50%	16.8	2450
	080U	6930	7920	14850	132.7	111.91	47% / 53%	16.5	2450
080D	-	7920	0	7920	82.6	95.88	100% / 0%	22.1	2801
	030U	7920	2970	10890	101.7	107.08	73% / 27%	19.2	2801
	040U	7920	3960	11880	108.4	109.59	67% / 33%	18.7	2801
	050U	7920	4950	12870	116.4	110.57	62% / 38%	18.3	2801
	060U	7920	5940	13860	124.8	111.06	57% / 43%	17.9	2801
	070U	7920	6930	14850	133.4	111.32	53% / 47%	17.6	2801
	080U	7920	7920	15840	143.9	110.08	50% / 50%	17.3	2801

KEY:

	Meets WELL v2 (2)
TEXT	Meets LEED v4.1 (3)

Notes:

(1) UGR values per CIE 190:2010 with 4H, 8H, Reflectance: 70% Ceiling, 50% Wall, 20% Ref. Plane

(2) UGR and Luminance values that meet WELL v2 L04 requirements for Managing Glare are shown with green highlighted cell. (UGR<16, Luminance <6000CD, applies to direct distributions only)

(3) UGR and Luminance values that meet LEED v4.1 requirements for Glare Control are shown with green text. (UGR<19, Luminance <7000CD applies to direct distributions only)

* UGR - Universal Glare Rating is an objective calculation of glare from a standard application of electric lighting. UGR numbers may vary depending as most industry photometric tools will assume this product is a fully luminous circle and not a ring of light. Given the form factor of this product as a luminous ring, assumptions were made to derive UGR to more accurately reflect the area of the luminous ring and not the default method assuming a fully luminous circle.

** Photometry reflects white housing

Energy and Performance Data - Direct Frosted Lens (FLL) and Indirect Open No Lens (ONL)

3FT Square | 80CRI | 3500K | Direct Frosted Lens (FLL) and Indirect Open No Lens (ONL)**								Glare	
Direct Lumen Package	Indirect Lumen Package	Direct Lm	Indirect Lm	Total Lm	Total W	Lm/W	% Distribution Direct/Indirect	*Max UGR Ring (4H 8H 70/50/20)	Max Luminance (45-90 deg)
040D	-	3960	0	3960	38.1	103.94	100% / 0%	17.4	742
	040U	3960	3960	7920	62.6	126.52	50% / 50%	12.7	742
	050U	3960	4950	8910	69.2	128.76	44% / 56%	12.2	742
	060U	3960	5940	9900	77.4	127.91	40% / 60%	11.7	742
	070U	3960	6930	10890	84.8	128.42	36% / 64%	11.3	742
	080U	3960	7920	11880	92.7	128.16	33% / 67%	10.9	742
	090U	3960	8910	12870	100.8	127.68	31% / 69%	10.6	742
	100U	3960	9900	13860	109.8	126.23	29% / 71%	10.3	742
	110U	3960	10890	14850	118.2	125.63	27% / 73%	10	742
	120U	3960	11880	15840	126.4	125.32	25% / 75%	9.7	742
050D	-	4950	0	4950	48	103.13	100% / 0%	18.2	928
	040U	4950	3960	8910	72.5	122.90	56% / 44%	14	928
	050U	4950	4950	9900	79.1	125.16	50% / 50%	13.5	928
	060U	4950	5940	10890	87.3	124.74	45% / 55%	13.1	928
	070U	4950	6930	11880	94.7	125.45	42% / 58%	12.7	928
	080U	4950	7920	12870	102.6	125.44	38% / 62%	12.3	928
	090U	4950	8910	13860	110.7	125.20	36% / 64%	12	928
	100U	4950	9900	14850	119.7	124.06	33% / 67%	11.7	928
	110U	4950	10890	15840	128.1	123.65	31% / 69%	11.4	928
	120U	4950	11880	16830	136.3	123.48	29% / 71%	11.2	928
060D	-	5940	0	5940	59.2	100.34	100% / 0%	18.8	1114
	040U	5940	3960	9900	83.7	118.28	60% / 40%	15.1	1114
	050U	5940	4950	10890	90.3	120.60	55% / 45%	14.6	1114
	060U	5940	5940	11880	98.5	120.61	50% / 50%	14.2	1114
	070U	5940	6930	12870	105.9	121.53	46% / 54%	13.8	1114
	080U	5940	7920	13860	113.8	121.79	43% / 57%	13.4	1114
	090U	5940	8910	14850	121.9	121.82	40% / 60%	13.1	1114
	100U	5940	9900	15840	130.9	121.01	38% / 63%	12.8	1114
	110U	5940	10890	16830	139.3	120.82	35% / 65%	12.6	1114
	120U	5940	11880	17820	147.5	120.81	33% / 67%	12.3	1114
070D	-	6930	0	6930	71.4	97.06	100% / 0%	19.4	1299
	040U	6930	3960	10890	95.9	113.56	64% / 36%	15.9	1299
	050U	6930	4950	11880	102.5	115.90	58% / 42%	15.5	1299
	060U	6930	5940	12870	110.7	116.26	54% / 46%	15.1	1299
	070U	6930	6930	13860	118.1	117.36	50% / 50%	14.7	1299
	080U	6930	7920	14850	126	117.86	47% / 53%	14.4	1299
	090U	6930	8910	15840	134.1	118.12	44% / 56%	14.1	1299
	100U	6930	9900	16830	143.1	117.61	41% / 59%	13.8	1299
	110U	6930	10890	17820	151.5	117.62	39% / 61%	13.5	1299
	120U	6930	11880	18810	159.7	117.78	37% / 63%	13.3	1299
080D	-	7920	0	7920	82	96.59	100% / 0%	19.8	1485
	040U	7920	3960	11880	106.5	111.55	67% / 33%	16.6	1485
	050U	7920	4950	12870	113.1	113.79	62% / 38%	16.2	1485
	060U	7920	5940	13860	121.3	114.26	57% / 43%	15.8	1485
	070U	7920	6930	14850	128.7	115.38	53% / 47%	15.5	1485
	080U	7920	7920	15840	136.6	115.96	50% / 50%	15.2	1485
	090U	7920	8910	16830	144.7	116.31	47% / 53%	14.9	1485
	100U	7920	9900	17820	153.7	115.94	44% / 56%	14.6	1485
	110U	7920	10890	18810	162.1	116.04	42% / 58%	14.4	1485
	120U	7920	11880	19800	170.3	116.27	40% / 60%	14.1	1485

KEY:

	Meets WELL v2 (2)
TEXT	Meets LEED v4.1 (3)

Notes:

(1) UGR values per CIE 190:2010 with 4H, 8H, Reflectance: 70% Ceiling, 50% Wall, 20% Ref. Plane

(2) UGR and Luminance values that meet WELL v2 L04 requirements for Managing Glare are shown with green highlighted cell. (UGR<16, Luminance <6000CD, applies to direct distributions only)

(3) UGR and Luminance values that meet LEED v4.1 requirements for Glare Control are shown with green text. (UGR<19, Luminance <7000CD applies to direct distributions only)

Continued on next page

* UGR - Universal Glare Rating is an objective calculation of glare from a standard application of electric lighting. UGR numbers may vary depending as most industry photometric tools will assume this product is a fully luminous circle and not a ring of light. Given the form factor of this product as a luminous ring, assumptions were made to derive UGR to more accurately reflect the area of the luminous ring and not the default method assuming a fully luminous circle.

** Photometry reflects white housing

Energy and Performance Data - Direct Frosted Lens (FLL) and Indirect Open No Lens (ONL) - CONT'D

3FT Square | 80CRI | 3500K | Direct Frosted Lens (FLL) and Indirect Open No Lens (ONL)**								Glare	
Direct Lumen Package	Indirect Lumen Package	Direct Lm	Indirect Lm	Total Lm	Total W	Lm/W	% Distribution Direct/Indirect	*Max UGR Ring (4H 8H 70/50/20)	Max Luminance (45-90 deg)
090D	-	8910	0	8910	93.6	95.19	100% / 0%	20.2	1670
	040U	8910	3960	12870	118.1	108.98	69% / 31%	17.2	1670
	050U	8910	4950	13860	124.7	111.15	64% / 36%	16.8	1670
	060U	8910	5940	14850	132.9	111.74	60% / 40%	16.5	1670
	070U	8910	6930	15840	140.3	112.90	56% / 44%	16.1	1670
	080U	8910	7920	16830	148.2	113.56	53% / 47%	15.8	1670
	090U	8910	8910	17820	156.3	114.01	50% / 50%	15.6	1670
	100U	8910	9900	18810	165.3	113.79	47% / 53%	15.3	1670
	110U	8910	10890	19800	173.7	113.99	45% / 55%	15.1	1670
	120U	8910	11880	20790	181.9	114.29	43% / 57%	14.8	1670
100D	-	9900	0	9900	104.3	94.92	100% / 0%	20.6	1856
	040U	9900	3960	13860	128.8	107.61	71% / 29%	17.8	1856
	050U	9900	4950	14850	135.4	109.68	67% / 33%	17.4	1856
	060U	9900	5940	15840	143.6	110.31	63% / 38%	17.1	1856
	070U	9900	6930	16830	151	111.46	59% / 41%	16.7	1856
	080U	9900	7920	17820	158.9	112.15	56% / 44%	16.4	1856
	090U	9900	8910	18810	167	112.63	53% / 47%	16.2	1856
	100U	9900	9900	19800	176	112.50	50% / 50%	15.9	1856
	110U	9900	10890	20790	184.4	112.74	48% / 52%	15.7	1856
	120U	9900	11880	21780	192.6	113.08	45% / 55%	15.5	1856
1100D	-	10890	0	10890	117.7	92.52	100% / 0%	20.9	2042
	040U	10890	3960	14850	142.2	104.43	73% / 27%	18.3	2042
	050U	10890	4950	15840	148.8	106.45	69% / 31%	17.9	2042
	060U	10890	5940	16830	157	107.20	65% / 35%	17.6	2042
	070U	10890	6930	17820	164.4	108.39	61% / 39%	17.3	2042
	080U	10890	7920	18810	172.3	109.17	58% / 42%	17	2042
	090U	10890	8910	19800	180.4	109.76	55% / 45%	16.7	2042
	100U	10890	9900	20790	189.4	109.77	52% / 48%	16.5	2042
	110U	10890	10890	21780	197.8	110.11	50% / 50%	16.3	2042
	120U	10890	11880	22770	206	110.53	48% / 52%	16.1	2042
120D	-	11880	0	11880	131.6	90.27	100% / 0%	21.2	2227
	040U	11880	3960	15840	156.1	101.47	75% / 25%	18.7	2227
	050U	11880	4950	16830	162.7	103.44	71% / 29%	18.3	2227
	060U	11880	5940	17820	170.9	104.27	67% / 33%	18	2227
	070U	11880	6930	18810	178.3	105.50	63% / 37%	17.7	2227
	080U	11880	7920	19800	186.2	106.34	60% / 40%	17.5	2227
	090U	11880	8910	20790	194.3	107.00	57% / 43%	17.2	2227
	100U	11880	9900	21780	203.3	107.13	55% / 45%	17	2227
	110U	11880	10890	22770	211.7	107.56	52% / 48%	16.8	2227
	120U	11880	11880	23760	219.9	108.05	50% / 50%	16.6	2227

KEY:

	Meets WELL v2 (2)
TEXT	Meets LEED v4.1 (3)

Notes:

(1) UGR values per CIE 190:2010 with 4H, 8H, Reflectance: 70% Ceiling, 50% Wall, 20% Ref. Plane

(2) UGR and Luminance values that meet WELL v2 L04 requirements for Managing Glare are shown with green highlighted cell. (UGR<16, Luminance <6000CD, applies to direct distributions only)

(3) UGR and Luminance values that meet LEED v4.1 requirements for Glare Control are shown with green text. (UGR<19, Luminance <7000CD applies to direct distributions only)

* UGR - Universal Glare Rating is an objective calculation of glare from a standard application of electric lighting. UGR numbers may vary depending as most industry photometric tools will assume this product is a fully luminous circle and not a ring of light. Given the form factor of this product as a luminous ring, assumptions were made to derive UGR to more accurately reflect the area of the luminous ring and not the default method assuming a fully luminous circle.

** Photometry reflects white housing

Energy and Performance Data - Direct Frosted Lens (FLL) and Indirect Open No Lens (ONL)

4FT Square | 80CRI | 3500K | Direct Frosted Lens (FLL) and Indirect Open No Lens (ONL)**								Glare	
Direct Lumen Package	Indirect Lumen Package	Direct Lm	Indirect Lm	Total Lm	Total W	Lm/W	% Distribution Direct/Indirect	*Max UGR Ring (4H 8H 70/50/20)	Max Luminance (45-90 deg)
060D	-	5940	0	5940	57.9	102.59	100% / 0%	17.1	689
	060U	5940	5940	11880	95.2	124.79	50% / 50%	12.5	689
	070U	5940	6930	12870	102.2	125.93	46% / 54%	12.2	689
	080U	5940	7920	13860	109.5	126.58	43% / 57%	11.8	689
	090U	5940	8910	14850	116.7	127.25	40% / 60%	11.5	689
	100U	5940	9900	15840	124.7	127.02	38% / 63%	11.2	689
	110U	5940	10890	16830	132.8	126.73	35% / 65%	11	689
	120U	5940	11880	17820	140.1	127.19	33% / 67%	10.7	689
	140U	5940	13860	19800	155.8	127.09	30% / 70%	10.3	689
	160U	5940	15840	21780	172.1	126.55	27% / 73%	9.9	689
070D	-	6930	0	6930	69.2	100.14	100% / 0%	17.6	803
	060U	6930	5940	12870	106.5	120.85	54% / 46%	13.4	803
	070U	6930	6930	13860	113.5	122.11	50% / 50%	13.1	803
	080U	6930	7920	14850	120.8	122.93	47% / 53%	12.7	803
	090U	6930	8910	15840	128	123.75	44% / 56%	12.4	803
	100U	6930	9900	16830	136	123.75	41% / 59%	12.2	803
	110U	6930	10890	17820	144.1	123.66	39% / 61%	11.9	803
	120U	6930	11880	18810	151.4	124.24	37% / 63%	11.7	803
	140U	6930	13860	20790	167.1	124.42	33% / 67%	11.2	803
	160U	6930	15840	22770	183.4	124.15	30% / 70%	10.9	803
080D	-	7920	0	7920	79.3	99.87	100% / 0%	18.1	918
	060U	7920	5940	13860	116.6	118.87	57% / 43%	14.2	918
	070U	7920	6930	14850	123.6	120.15	53% / 47%	13.8	918
	080U	7920	7920	15840	130.9	121.01	50% / 50%	13.5	918
	090U	7920	8910	16830	138.1	121.87	47% / 53%	13.2	918
	100U	7920	9900	17820	146.1	121.97	44% / 56%	13	918
	110U	7920	10890	18810	154.2	121.98	42% / 58%	12.7	918
	120U	7920	11880	19800	161.5	122.60	40% / 60%	12.5	918
	140U	7920	13860	21780	177.2	122.91	36% / 64%	12.1	918
	160U	7920	15840	23760	193.5	122.79	33% / 67%	11.7	918
090D	-	8910	0	8910	90.6	98.34	100% / 0%	18.5	1033
	060U	8910	5940	14850	127.9	116.11	60% / 40%	14.8	1033
	070U	8910	6930	15840	134.9	117.42	56% / 44%	14.5	1033
	080U	8910	7920	16830	142.2	118.35	53% / 47%	14.2	1033
	090U	8910	8910	17820	149.4	119.28	50% / 50%	13.9	1033
	100U	8910	9900	18810	157.4	119.50	47% / 53%	13.7	1033
	110U	8910	10890	19800	165.5	119.64	45% / 55%	13.4	1033
	120U	8910	11880	20790	172.8	120.31	43% / 57%	13.2	1033
	140U	8910	13860	22770	188.5	120.80	39% / 61%	12.8	1033
	160U	8910	15840	24750	204.8	120.85	36% / 64%	12.5	1033
100D	-	9900	0	9900	100.6	98.41	100% / 0%	18.9	1148
	060U	9900	5940	15840	137.9	114.87	63% / 38%	15.4	1148
	070U	9900	6930	16830	144.9	116.15	59% / 41%	15.1	1148
	080U	9900	7920	17820	152.2	117.08	56% / 44%	14.8	1148
	090U	9900	8910	18810	159.4	118.01	53% / 47%	14.6	1148
	100U	9900	9900	19800	167.4	118.28	50% / 50%	14.3	1148
	110U	9900	10890	20790	175.5	118.46	48% / 52%	14.1	1148
	120U	9900	11880	21780	182.8	119.15	45% / 55%	13.9	1148
	140U	9900	13860	23760	198.5	119.70	42% / 58%	13.5	1148
	160U	9900	15840	25740	214.8	119.83	38% / 62%	13.1	1148

KEY:

	Meets WELL v2 (2)
TEXT	Meets LEED v4.1 (3)

Notes:

(1) UGR values per CIE 190:2010 with 4H, 8H, Reflectance: 70% Ceiling, 50% Wall, 20% Ref. Plane

(2) UGR and Luminance values that meet WELL v2 L04 requirements for Managing Glare are shown with green highlighted cell. (UGR<16, Luminance <6000CD, applies to direct distributions only)

(3) UGR and Luminance values that meet LEED v4.1 requirements for Glare Control are shown with green text. (UGR<19, Luminance <7000CD applies to direct distributions only)

Continued on next page

* UGR - Universal Glare Rating is an objective calculation of glare from a standard application of electric lighting. UGR numbers may vary depending as most industry photometric tools will assume this product is a fully luminous circle and not a ring of light. Given the form factor of this product as a luminous ring, assumptions were made to derive UGR to more accurately reflect the area of the luminous ring and not the default method assuming a fully luminous circle.

** Photometry reflects white housing

Energy and Performance Data - Direct Frosted Lens (FLL) and Indirect Open No Lens (ONL) - CONT'D

4FT Square | 80CRI | 3500K | Direct Frosted Lens (FLL) and Indirect Open No Lens (ONL)**								Glare	
Direct Lumen Package	Indirect Lumen Package	Direct Lm	Indirect Lm	Total Lm	Total W	Lm/W	% Distribution Direct/Indirect	*Max UGR Ring (4H 8H 70/50/20)	Max Luminance (45-90 deg)
110D	-	10890	0	10890	113	96.37	100% / 0%	19.2	1262
	060U	10890	5940	16830	150.3	111.98	65% / 35%	15.9	1262
	070U	10890	6930	17820	157.3	113.29	61% / 39%	15.6	1262
	080U	10890	7920	18810	164.6	114.28	58% / 42%	15.4	1262
	090U	10890	8910	19800	171.8	115.25	55% / 45%	15.1	1262
	100U	10890	9900	20790	179.8	115.63	52% / 48%	14.9	1262
	110U	10890	10890	21780	187.9	115.91	50% / 50%	14.6	1262
	120U	10890	11880	22770	195.2	116.65	48% / 52%	14.4	1262
	140U	10890	13860	24750	210.9	117.35	44% / 56%	14	1262
	160U	10890	15840	26730	227.2	117.65	41% / 59%	13.7	1262
120D	-	11880	0	11880	125.5	94.66	100% / 0%	19.5	1377
	060U	11880	5940	17820	162.8	109.46	67% / 33%	16.4	1377
	070U	11880	6930	18810	169.8	110.78	63% / 37%	16.1	1377
	080U	11880	7920	19800	177.1	111.80	60% / 40%	15.8	1377
	090U	11880	8910	20790	184.3	112.81	57% / 43%	15.6	1377
	100U	11880	9900	21780	192.3	113.26	55% / 45%	15.4	1377
	110U	11880	10890	22770	200.4	113.62	52% / 48%	15.1	1377
	120U	11880	11880	23760	207.7	114.40	50% / 50%	14.9	1377
	140U	11880	13860	25740	223.4	115.22	46% / 54%	14.6	1377
	160U	11880	15840	27720	239.7	115.64	43% / 57%	14.2	1377
140D	-	13860	0	13860	151.7	91.36			
	060U	13860	5940	19800	189	104.76	70% / 30%	17.2	1607
	070U	13860	6930	20790	196	106.07	67% / 33%	16.9	1607
	080U	13860	7920	21780	203.3	107.13	64% / 36%	16.7	1607
	090U	13860	8910	22770	210.5	108.17	61% / 39%	16.5	1607
	100U	13860	9900	23760	218.5	108.74	58% / 42%	16.2	1607
	110U	13860	10890	24750	226.6	109.22	56% / 44%	16	1607
	120U	13860	11880	25740	233.9	110.05	54% / 46%	15.8	1607
	140U	13860	13860	27720	249.6	111.06	50% / 50%	15.5	1607
	160U	13860	15840	29700	265.9	111.70	47% / 53%	15.2	1607
160D	-	15840	0	15840	174.6	90.72	100% / 0%	20.5	1836
	060U	15840	5940	21780	211.9	102.78	73% / 27%	17.9	1836
	070U	15840	6930	22770	218.9	104.02	70% / 30%	17.6	1836
	080U	15840	7920	23760	226.2	105.04	67% / 33%	17.4	1836
	090U	15840	8910	24750	233.4	106.04	64% / 36%	17.2	1836
	100U	15840	9900	25740	241.4	106.63	62% / 38%	17	1836
	110U	15840	10890	26730	249.5	107.13	59% / 41%	16.8	1836
	120U	15840	11880	27720	256.8	107.94	57% / 43%	16.6	1836
	140U	15840	13860	29700	272.5	108.99	53% / 47%	16.3	1836
	160U	15840	15840	31680	288.8	109.70	50% / 50%	15.9	1836

KEY:

	Meets WELL v2 (2)
TEXT	Meets LEED v4.1 (3)

Notes:

(1) UGR values per CIE 190:2010 with 4H, 8H, Reflectance: 70% Ceiling, 50% Wall, 20% Ref. Plane

(2) UGR and Luminance values that meet WELL v2 L04 requirements for Managing Glare are shown with green highlighted cell. (UGR<16, Luminance <6000CD, applies to direct distributions only)

(3) UGR and Luminance values that meet LEED v4.1 requirements for Glare Control are shown with green text. (UGR<19, Luminance <7000CD applies to direct distributions only)

* UGR - Universal Glare Rating is an objective calculation of glare from a standard application of electric lighting. UGR numbers may vary depending as most industry photometric tools will assume this product is a fully luminous circle and not a ring of light. Given the form factor of this product as a luminous ring, assumptions were made to derive UGR to more accurately reflect the area of the luminous ring and not the default method assuming a fully luminous circle.

** Photometry reflects white housing

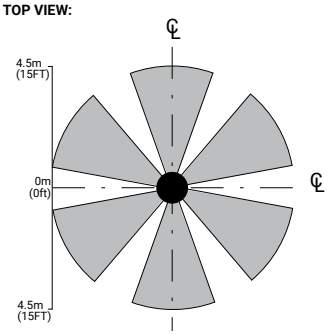
Control Solutions

- WaveLinx LITE wireless
- WaveLinx PRO wireless
- WaveLinx CAT wired
- WaveLinx Wired

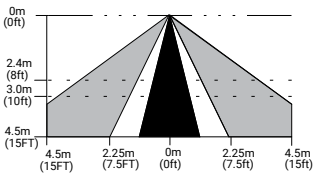
WaveLinx Digital Lighting Control Solutions

Integrated Sensor Coverage Pattern

TOP VIEW:



SIDE VIEW:



***Note**: Installation of integrated sensors within 3-ft (1m) of HVAC air vents is not recommended. The pattern shown is intended solely as a general guide and is not to scale.*

The Define Geo with WaveLinx offers no-hassle lighting control with multiple luminaire level control solutions.

WaveLinx PRO is a wireless lighting control solution, for connected spaces, that significantly reduces a building's energy consumption. From a single floor to an entire campus, WaveLinx PRO connects more than lighting assets; it shares aggregated sensor data with the WaveLinx CORE platform and other building systems, so building owners can improve operations, spaces environment, and tenants' experience. WaveLinx PRO offers a rich portfolio of wireless devices, WaveLinx PRO-enabled luminaires, and an intuitive WaveLinx mobile app for office, education, warehouse, and parking garage applications.

WaveLinx LITE is a cost effective, wireless digital lighting control solution, with out-of-the-box functionality, that saves energy and meets code. It's designed for applications that require occupancy-based, daylighting, or manual light control. Customize installations for office, education, warehouse and parking garages using the secure, simple mobile app.

Coming Soon!

Luminaire with standalone sensor

Standalone Spaces WaveLinx LITE

Standalone Spaces WaveLinx CAT

Networked Spaces WaveLinx PRO

Enterprise WaveLinx CORE

Occupancy	Yes	Yes	Yes	Yes	Yes
Daylighting	Yes	Yes	Yes	Yes	Yes
Wallstations	–	Yes	Yes	Yes	Yes
Gateways	–	–	–	1 WAC	300 WACs
Devices (MAX)	–	40 per Area (1120 per space)	40 per Area	200 per WAC2	32,500 per CORE Enterprise
Software	–	WaveLinx LITE Mobile App	WaveLinx CAT Mobile App	WaveLinx Mobile App	CORE
Areas	–	28 per Space	Unlimited	50 per WAC2	up to 3,000
Zones	–	16 per Area	16 per Area	16 per Area	up to 9,000
Scheduling	–	–	–	Local	Global
VividTune™	–	–	–	Yes	Yes
Plug-Load Control	–	Yes	Yes	Yes	Yes
Low-Voltage Power	–	–	Yes	Yes	Yes
Integration	–	–	–	–	BACnet, API
Dashboards	–	–	–	–	Energy, Occupancy
Configuration	–	Installer	Installer	Technician	Technician / IT

SCALABILITY

devices → areas → floors → buildings

WaveLinx expands from a single standalone device up to Enterprise with 32,500 devices

**Note: WaveLinx LITE devices can be upgraded to WaveLinx PRO via an OTA firmware update. The OTA and system configuration can only be performed by Cooper Lighting Solutions specialists. WaveLinx Area Controller(s) would also need to be added to complete the solution.*

Cooper Lighting Solutions
18001 East Colfax Avenue
Aurora, CO 80011
P: 1-800-760-1317
www.cooperlighting.com