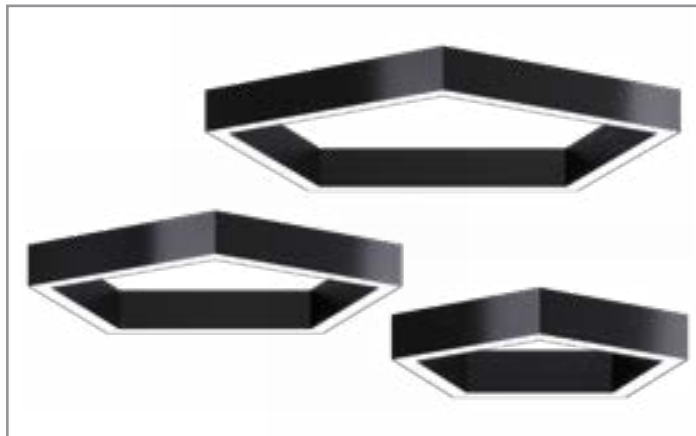


Project		Catalog #		Type	
Prepared by		Notes		Date	



NeoRay

Define Geo - Penta

Suspended Mount Direct + Indirect
Surface Mount Direct

Typical Applications

Education • Healthcare • Hospitality • Office • Retail • Transit

Interactive Menu

- Order Information page 2
- Photometric Data page 6
- Energy and Performance Data page 7
- Control Systems page 12
- Product Limited Warranty

Product Certifications



Product Features

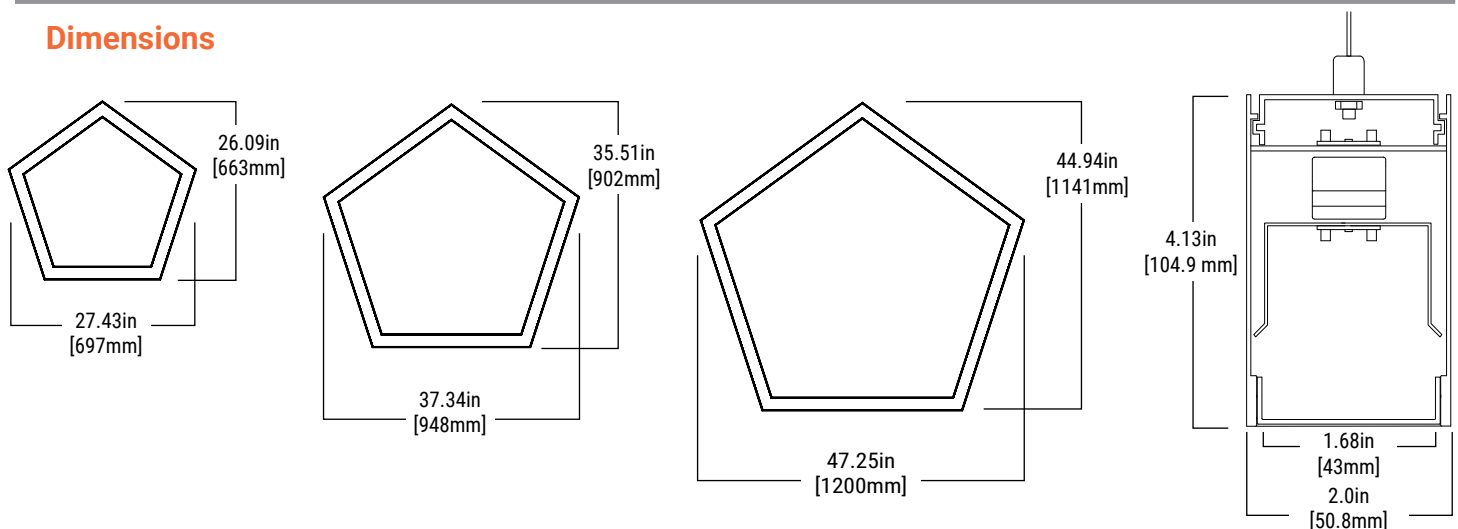


* Self-tested by Cooper Lighting. Not a third party certification.

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 12,000Lm each direction
- Frosted lens available for direct and indirect illumination
- Solid aluminum collector option Coming Soon!

Dimensions



Order Information

SAMPLE ORDER NUMBER: **DFN2DIP-PN4F0-060D040US935-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	PN = Penta (Pentagon)	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	
020D = 2000 Lm Direct 030D = 3000 Lm Direct 040D = 4000 Lm Direct 050D = 5000 Lm Direct 060D = 6000 Lm Direct 070D = 7000 Lm Direct 080D = 8000 Lm Direct Reference table on the next page for available output levels by shape and size.	090D = 9000 Lm Direct 100D = 10000 Lm Direct 110D = 11000 Lm Direct 120D = 12000 Lm Direct _D = Custom Lm Direct Reference table on the next page for available output levels by shape and size.	[Blank] = None 020U = 2000 Lm Indirect 030U = 3000 Lm Indirect 040U = 4000 Lm Indirect 050U = 5000 Lm Indirect 060U = 6000 Lm Indirect 070U = 6000 Lm Indirect 080U = 8000 Lm Indirect Reference table on the next page for available output levels by shape and size.	090U = 9000 Lm Indirect 100U = 10000 Lm Indirect 110U = 11000 Lm Indirect 120U = 12000 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 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



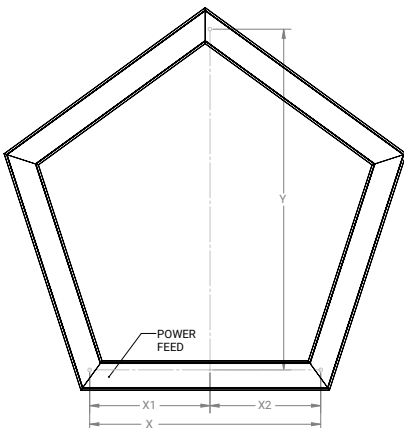
Aircraft Cable (No Collector)



Surface

Mounting - Collector Coming Soon!

Mounting - Dimensions



Direction	2ft (2F0)	3ft (3F0)	4ft (4F0)
X	15.75in	21.875in	28in
X1	8.25in	11.25in	14.375in
X2	7.5in	10.625in	13.625in
Y	23.25in	32.625in	42.125in

Sizes

4ft



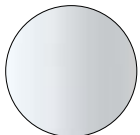
3ft



2ft



Finishes



W - White



S - Silver



B - Black
Semi-Gloss



BM - Black
Matte



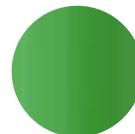
RR - Real Red
RAL 3020
Gloss



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

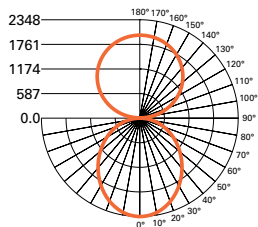
RAL & custom colors available as ETO



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

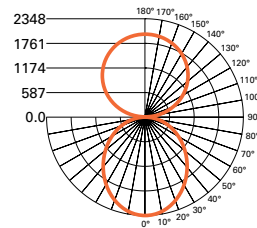
Photometric Data

2ft



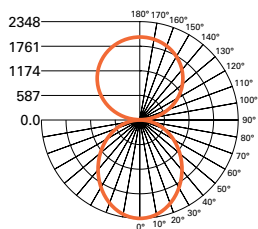
FILE NAME:
DFN2DIP-PN2F0-060D060US835-
FLLONL.ies
CCT/CRI: 3500K / 80 CRI
LUMENS: 11880 Lm
WATTS: 117.3W
EFFICACY: 101.3 Lm/W
TEST NO.: P905673
50% UP / 50% DOWN

3ft



FILE NAME:
DFN2DIP-PN3F0-060D060US835-
FLLONL.ies
CCT/CRI: 3500K / 80 CRI
LUMENS: 11880 Lm
WATTS: 103 W
EFFICACY: 115.3 Lm/W
TEST NO.: P905773
50% UP / 50% DOWN

4ft



FILE NAME:
DFN2DIP-PN4F0-060D060US835-
FLLONL.ies
CCT/CRI: 3500K / 90 CRI
LUMENS: 11880 Lm
WATTS: 99.7W
EFFICACY: 119.2 Lm/W
TEST NO.: P905953
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.

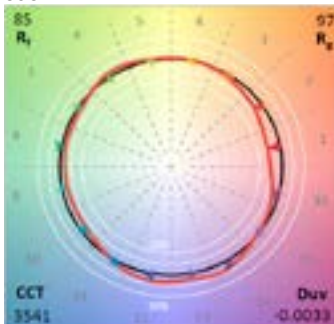
Lumen Adjustment Factors

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

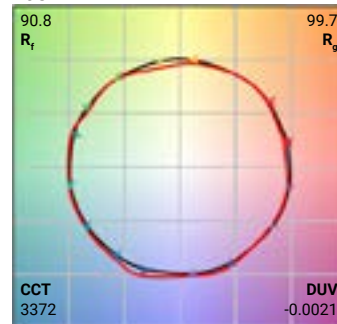
Color Data (3500K)

		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 Pentagon 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)
020D	-	1980	0	1980	19.3	102.59	100% / 0%	17.2	690
	020U	1980	1980	3960	32.3	122.60	50% / 50%	12.4	690
	030U	1980	2970	4950	35.2	140.63	40% / 60%	11.4	690
	040U	1980	3960	5940	47.3	125.58	33% / 67%	10.6	690
	050U	1980	4950	6930	57.5	120.52	29% / 71%	9.9	690
	060U	1980	5940	7920	69	114.78	25% / 75%	9.4	690
030D	-	2970	0	2970	30.8	96.43	100% / 0%	18.6	1035
	020U	2970	1980	4950	43.8	113.01	60% / 40%	14.7	1035
	030U	2970	2970	5940	46.7	127.19	50% / 50%	13.8	1035
	040U	2970	3960	6930	58.8	117.86	43% / 57%	13.1	1035
	050U	2970	4950	7920	69	114.78	38% / 63%	12.5	1035
	060U	2970	5940	8910	80.5	110.68	33% / 67%	12	1035
040D	-	3960	0	3960	42.2	93.84	100% / 0%	19.6	1380
	040U	3960	3960	7920	70.2	112.82	50% / 50%	14.8	1380
	030U	3960	2970	6930	58.1	119.28	57% / 43%	15.5	1380
	040U	3960	3960	7920	70.2	112.82	50% / 50%	14.8	1380
	050U	3960	4950	8910	80.4	110.82	44% / 56%	14.3	1380
	060U	3960	5940	9900	91.9	107.73	40% / 60%	13.8	1380
050D	-	4950	0	4950	54	91.67	100% / 0%	20.4	1725
	050U	4950	4950	9900	92.2	107.38	50% / 50%	15.6	1725
	030U	4950	2970	7920	69.9	113.30	63% / 38%	16.7	1725
	040U	4950	3960	8910	82	108.66	56% / 44%	16.1	1725
	050U	4950	4950	9900	92.2	107.38	50% / 50%	15.6	1725
	060U	4950	5940	10890	103.7	105.01	45% / 55%	15.1	1725
060D	-	5940	0	5940	67.6	87.87	100% / 0%	21	2070
	060U	5940	5940	11880	117.3	101.28	50% / 50%	16.2	2070
	030U	5940	2970	8910	83.5	106.71	67% / 33%	17.7	2070
	040U	5940	3960	9900	95.6	103.56	60% / 40%	17.1	2070
	050U	5940	4950	10890	105.8	102.93	55% / 45%	16.6	2070
	060U	5940	5940	11880	117.3	101.28	50% / 50%	16.2	2070

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 Pentagon 80CRI 3500K Direct Frosted Lens (FLL) and Indirect Frosted Lens (FLL)**								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	28.1	105.69	100% / 0%	16.5	568
	030U	2970	2970	5940	47.2	125.85	50% / 50%	11.8	568
	040U	2970	3960	6930	53.9	128.57	43% / 57%	11.1	568
	050U	2970	4950	7920	61.6	128.57	38% / 63%	10.5	568
	060U	2970	5940	8910	69.9	127.47	33% / 67%	10	568
	070U	2970	6930	9900	78.2	126.60	30% / 70%	9.5	568
	080U	2970	7920	10890	85.3	127.67	27% / 73%	9.2	568
	090U	2970	8910	11880	95.1	124.92	25% / 75%	8.8	568
040D	-	3960	0	3960	38.9	101.80	100% / 0%	17.5	757
	030U	3960	2970	6930	58	119.48	57% / 43%	13.5	757
	040U	3960	3960	7920	64.7	122.41	50% / 50%	12.8	757
	050U	3960	4950	8910	72.4	123.07	44% / 56%	12.3	757
	060U	3960	5940	9900	80.7	122.68	40% / 60%	11.8	757
	070U	3960	6930	10890	89	122.36	36% / 64%	11.4	757
	080U	3960	7920	11880	96.1	123.62	33% / 67%	11	757
	090U	3960	8910	12870	105.9	121.53	31% / 69%	10.6	757
050D	-	4950	0	4950	49.2	100.61	100% / 0%	18.3	946
	030U	4950	2970	7920	68.3	115.96	63% / 38%	14.7	946
	040U	4950	3960	8910	75	118.80	56% / 44%	14.1	946
	050U	4950	4950	9900	82.7	119.71	50% / 50%	13.6	946
	060U	4950	5940	10890	91	119.67	45% / 55%	13.1	946
	070U	4950	6930	11880	99.3	119.64	42% / 58%	12.7	946
	080U	4950	7920	12870	106.4	120.96	38% / 62%	12.4	946
	090U	4950	8910	13860	116.2	119.28	36% / 64%	12.1	946
060D	-	5940	0	5940	61.2	97.06	100% / 0%	18.9	1135
	030U	5940	2970	8910	80.3	110.96	67% / 33%	15.7	1135
	040U	5940	3960	9900	87	113.79	60% / 40%	15.1	1135
	050U	5940	4950	10890	94.7	114.99	55% / 45%	14.6	1135
	060U	5940	5940	11880	103	115.34	50% / 50%	14.2	1135
	070U	5940	6930	12870	111.3	115.63	46% / 54%	13.8	1135
	080U	5940	7920	13860	118.4	117.06	43% / 57%	13.5	1135
	090U	5940	8910	14850	128.2	115.83	40% / 60%	13.2	1135

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 Pentagon 80CRI 3500K Direct Frosted Lens (FLL) and Indirect Open No Lens (ONL)**								Glare		KEY:
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)	
070D	-	6930	0	6930	73.7	94.03	100% / 0%	19.4	1324	Meets WELL v2 (2)
	030U	6930	2970	9900	92.8	106.68	70% / 30%	16.5	1324	Meets LEED v4.1 (3)
	040U	6930	3960	10890	99.5	109.45	64% / 36%	16	1324	
	050U	6930	4950	11880	107.2	110.82	58% / 42%	15.5	1324	
	060U	6930	5940	12870	115.5	111.43	54% / 46%	15.1	1324	
	070U	6930	6930	13860	123.8	111.95	50% / 50%	14.8	1324	
	080U	6930	7920	14850	130.9	113.45	47% / 53%	14.4	1324	
	090U	6930	8910	15840	140.7	112.58	44% / 56%	14.1	1324	
080D	-	7920	0	7920	84.1	94.17	100% / 0%	19.9	1514	
	030U	7920	2970	10890	103.2	105.52	73% / 27%	17.2	1514	
	040U	7920	3960	11880	109.9	108.10	67% / 33%	16.7	1514	
	050U	7920	4950	12870	117.6	109.44	62% / 38%	16.3	1514	
	060U	7920	5940	13860	125.9	110.09	57% / 43%	15.9	1514	
	070U	7920	6930	14850	134.2	110.66	53% / 47%	15.5	1514	
	080U	7920	7920	15840	141.3	112.10	50% / 50%	15.2	1514	
	090U	7920	8910	16830	151.1	111.38	47% / 53%	14.9	1514	
090D	-	8910	0	8910	97.2	91.67	100% / 0%	20.3	1703	
	030U	8910	2970	11880	116.3	102.15	75% / 25%	17.8	1703	
	040U	8910	3960	12870	123	104.63	69% / 31%	17.3	1703	
	050U	8910	4950	13860	130.7	106.04	64% / 36%	16.9	1703	
	060U	8910	5940	14850	139	106.83	60% / 40%	16.5	1703	
	070U	8910	6930	15840	147.3	107.54	56% / 44%	16.2	1703	
	080U	8910	7920	16830	154.4	109.00	53% / 47%	15.9	1703	
	090U	8910	8910	17820	164.2	108.53	50% / 50%	15.6	1703	

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 Pentagon 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%	15.8	477
	040U	3960	3960	7920	63.7	124.33	50% / 50%	11.3	477
	050U	3960	4950	8910	71	125.49	44% / 56%	10.7	477
	060U	3960	5940	9900	78.5	126.11	40% / 60%	10.2	477
	070U	3960	6930	10890	85.9	126.78	36% / 64%	9.8	477
	080U	3960	7920	11880	91.3	130.12	33% / 67%	9.4	477
	090U	3960	8910	12870	100	128.70	31% / 69%	9.1	477
	100U	3960	9900	13860	108.3	127.98	29% / 71%	8.8	477
	110U	3960	10890	14850	125	118.80	27% / 73%	8.5	477
120U	3960	11880	15840	136.9	115.70	25% / 75%	8.2	477	
050D	-	4950	0	4950	48.8	101.43	100% / 0%	16.6	597
	040U	4950	3960	8910	74.4	119.76	56% / 44%	12.5	597
	050U	4950	4950	9900	81.7	121.18	50% / 50%	12	597
	060U	4950	5940	10890	89.2	122.09	45% / 55%	11.6	597
	070U	4950	6930	11880	96.6	122.98	42% / 58%	11.2	597
	080U	4950	7920	12870	102	126.18	38% / 62%	10.8	597
	090U	4950	8910	13860	110.7	125.20	36% / 64%	10.5	597
	100U	4950	9900	14850	119	124.79	33% / 67%	10.2	597
	110U	4950	10890	15840	135.7	116.73	31% / 69%	9.9	597
120U	4950	11880	16830	147.6	114.02	29% / 71%	9.7	597	
060D	-	5940	0	5940	59.3	100.17	100% / 0%	17.2	716
	040U	5940	3960	9900	84.9	116.61	60% / 40%	13.6	716
	050U	5940	4950	10890	92.2	118.11	55% / 45%	13.1	716
	060U	5940	5940	11880	99.7	119.16	50% / 50%	12.7	716
	070U	5940	6930	12870	107.1	120.17	46% / 54%	12.3	716
	080U	5940	7920	13860	112.5	123.20	43% / 57%	11.9	716
	090U	5940	8910	14850	121.2	122.52	40% / 60%	11.6	716
	100U	5940	9900	15840	129.5	122.32	38% / 63%	11.3	716
	110U	5940	10890	16830	146.2	115.12	35% / 65%	11.1	716
120U	5940	11880	17820	158.1	112.71	33% / 67%	10.8	716	
070D	-	6930	0	6930	71.4	97.06	100% / 0%	17.8	835
	040U	6930	3960	10890	97	112.27	64% / 36%	14.4	835
	050U	6930	4950	11880	104.3	113.90	58% / 42%	14	835
	060U	6930	5940	12870	111.8	115.12	54% / 46%	13.6	835
	070U	6930	6930	13860	119.2	116.28	50% / 50%	13.2	835
	080U	6930	7920	14850	124.6	119.18	47% / 53%	12.9	835
	090U	6930	8910	15840	133.3	118.83	44% / 56%	12.6	835
	100U	6930	9900	16830	141.6	118.86	41% / 59%	12.3	835
	110U	6930	10890	17820	158.3	112.57	39% / 61%	12	835
120U	6930	11880	18810	170.2	110.52	37% / 63%	11.8	835	
080D	-	7920	0	7920	81.9	96.70	100% / 0%	18.2	955
	040U	7920	3960	11880	107.5	110.51	67% / 33%	15.1	955
	050U	7920	4950	12870	114.8	112.11	62% / 38%	14.7	955
	060U	7920	5940	13860	122.3	113.33	57% / 43%	14.3	955
	070U	7920	6930	14850	129.7	114.49	53% / 47%	14	955
	080U	7920	7920	15840	135.1	117.25	50% / 50%	13.7	955
	090U	7920	8910	16830	143.8	117.04	47% / 53%	13.4	955
	100U	7920	9900	17820	152.1	117.16	44% / 56%	13.1	955
	110U	7920	10890	18810	168.8	111.43	42% / 58%	12.9	955
120U	7920	11880	19800	180.7	109.57	40% / 60%	12.6	955	

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

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 ** Photometry reflects white housing

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

4FT Pentagon 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	93.1	95.70	100% / 0%	18.7	1074
	040U	8910	3960	12870	118.7	108.42	69% / 31%	15.7	1074
	050U	8910	4950	13860	126	110.00	64% / 36%	15.3	1074
	060U	8910	5940	14850	133.5	111.24	60% / 40%	15	1074
	070U	8910	6930	15840	140.9	112.42	56% / 44%	14.6	1074
	080U	8910	7920	16830	146.3	115.04	53% / 47%	14.3	1074
	090U	8910	8910	17820	155	114.97	50% / 50%	14.1	1074
	100U	8910	9900	18810	163.3	115.19	47% / 53%	13.8	1074
	110U	8910	10890	19800	180	110.00	45% / 55%	13.6	1074
120U	8910	11880	20790	191.9	108.34	43% / 57%	13.4	1074	
100D	-	9900	0	9900	105.7	93.66	100% / 0%	19	1193
	040U	9900	3960	13860	131.3	105.56	71% / 29%	16.3	1193
	050U	9900	4950	14850	138.6	107.14	67% / 33%	15.9	1193
	060U	9900	5940	15840	146.1	108.42	63% / 38%	15.6	1193
	070U	9900	6930	16830	153.5	109.64	59% / 41%	15.2	1193
	080U	9900	7920	17820	158.9	112.15	56% / 44%	15	1193
	090U	9900	8910	18810	167.6	112.23	53% / 47%	14.7	1193
	100U	9900	9900	19800	175.9	112.56	50% / 50%	14.4	1193
	110U	9900	10890	20790	192.6	107.94	48% / 52%	14.2	1193
120U	9900	11880	21780	204.5	106.50	45% / 55%	14	1193	
110D	-	10890	0	10890	119	91.51	100% / 0%	19.4	1313
	040U	10890	3960	14850	144.6	102.70	73% / 27%	16.8	1313
	050U	10890	4950	15840	151.9	104.28	69% / 31%	16.4	1313
	060U	10890	5940	16830	159.4	105.58	65% / 35%	16.1	1313
	070U	10890	6930	17820	166.8	106.83	61% / 39%	15.8	1313
	080U	10890	7920	18810	172.2	109.23	58% / 42%	15.5	1313
	090U	10890	8910	19800	180.9	109.45	55% / 45%	15.2	1313
	100U	10890	9900	20790	189.2	109.88	52% / 48%	15	1313
	110U	10890	10890	21780	205.9	105.78	50% / 50%	14.8	1313
120U	10890	11880	22770	217.8	104.55	48% / 52%	14.6	1313	
120D	-	11880	0	11880	131	90.69	100% / 0%	19.7	1432
	040U	11880	3960	15840	156.6	101.15	75% / 25%	17.2	1432
	050U	11880	4950	16830	163.9	102.68	71% / 29%	16.9	1432
	060U	11880	5940	17820	171.4	103.97	67% / 33%	16.5	1432
	070U	11880	6930	18810	178.8	105.20	63% / 37%	16.2	1432
	080U	11880	7920	19800	184.2	107.49	60% / 40%	16	1432
	090U	11880	8910	20790	192.9	107.78	57% / 43%	15.7	1432
	100U	11880	9900	21780	201.2	108.25	55% / 45%	15.5	1432
	110U	11880	10890	22770	217.9	104.50	52% / 48%	15.3	1432
120U	11880	11880	23760	229.8	103.39	50% / 50%	15.1	1432	

KEY:

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

Notes:

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- (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)

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** Photometry reflects white housing

Control Solutions

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



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



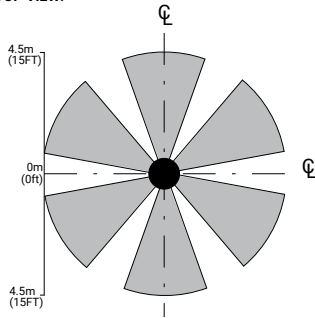
WaveLinx PRO is a wireless lighting control solution, for connected spaces, that significantly reduces a building's energy consumption. From a single floor to an entire campus, WaveLinx PRO connects more than lighting assets; it shares aggregated sensor data with the WaveLinx CORE platform and other 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.



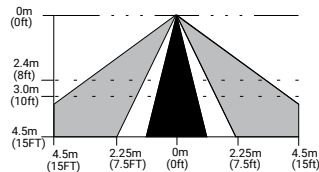
WaveLinx LITE is a cost effective, wireless digital lighting control solution, with out-of-the-box functionality, that saves energy and meets code. It's designed for applications that require occupancy-based, daylighting, or manual light control. Customize installations for office, education, warehouse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

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.



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



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.*