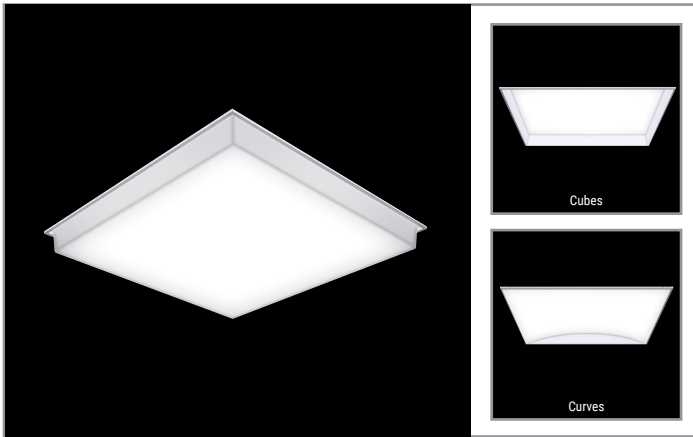


Project		Catalog #		Type	
Prepared by		Notes		Date	



Corelite

InDepth 2.0

LED Specification InDepth Series

1' x 4', 2' x 2', 2' x 4'

Typical Applications

Office • Education • Healthcare • Hospitality • Retail

Product Certification



Systems | Features & Awards



Interactive Menu

- Order Information page 2
- Photometric Data page 4
- Connected Systems page 13
- Product Warranty

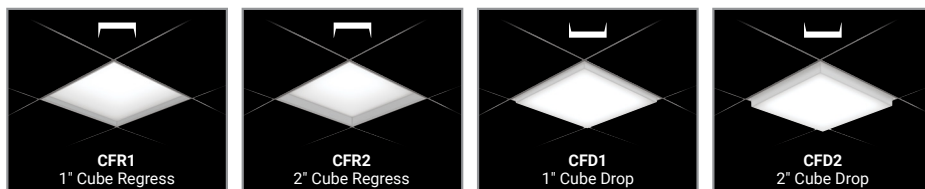
Top Product Features

- Designer delight - create ceiling topography with regressed and drop lens options from factory or convert during installation
- 80 and 90 CRI options available
- BioUp melanopic lighting options for 30% circadian boost and earn WELL Building Standard points (Coming Soon)
- Full range of lens options - cube, single curve, double curve, sweep dome and bevel (Coming Soon)
- Regressed lens provides optical cut off with smooth lens for reduced glare
- Extruded aluminum housing is matte white powder coated
- Wireless control options maintain superb aesthetics
- Options to meet Buy American Act requirements (Coming Soon)

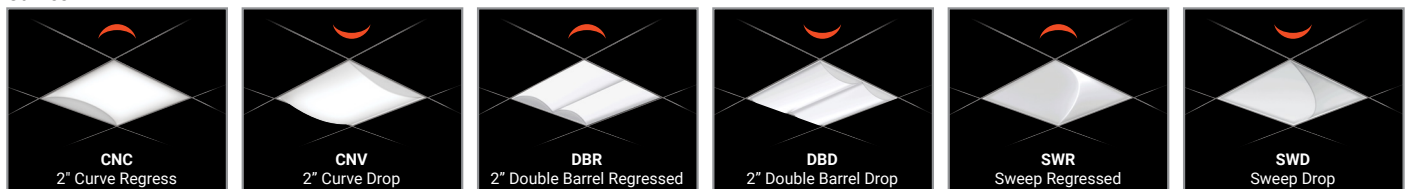
Options

additional product diagrams

Cubes



Curves



Order Information

Color Key: Orange shading indicates options that are coming soon

SAMPLE ORDER NUMBER: 22ID2-40-CFR2-L835-U

Domestic Preferences ⁽¹¹⁾	Rating	Size	Series	1x4 Lumen Output ⁽²⁾	2x2 Lumen Output ⁽²⁾	2x4 Lumen Output ⁽²⁾	Shielding ⁽⁵⁾	Voltage	Options
[Blank]=Standard BAA=Trade Agreements Act TAA= Trade Agreement Act	[Blank]=Standard CP= Chicago Rated	14=1' x 4' 22=2' x 2' 24=2' x 4'	ID2=InDepth 2.0	Standard Efficacy 20=2000 Lumens 25=2500 Lumens 30=3000 Lumens 35=3500 Lumens 40=4000 Lumens 45=4500 Lumens 50=5000 Lumens 55=5500 Lumens 60=6000 Lumens 70=7000 Lumens ⁽³⁾ 80=8000 Lumens ⁽³⁾	Standard Efficacy 20=2000 Lumens 25=2500 Lumens 30=3000 Lumens 35=3500 Lumens 40=4000 Lumens 45=4500 Lumens 50=5000 Lumens 55=5500 Lumens 60=6000 Lumens ⁽⁴⁾ 70=7000 Lumens ⁽⁴⁾ 80=8000 Lumens ⁽⁴⁾	Standard Efficacy 20=2000 Lumens 25=2500 Lumens 30=3000 Lumens 35=3500 Lumens 40=4000 Lumens 45=4500 Lumens 50=5000 Lumens 55=5500 Lumens 60=6000 Lumens 65=6500 Lumens 70=7000 Lumens 72=7200 Lumens 80=8000 Lumens 90=9000 Lumens ⁽¹⁴⁾ 100=10,000 Lumens ^{(4) (14)}	CFR1=1" Cube Regressed CFR2=2" Cube Regressed CFD1=1" Cube Drop CFD2=2" Cube Drop CNC=2" Curve Regressed CNU=2" Curve Drop DBR=2" Double Barrel Regressed ⁽¹⁵⁾ DBD=2" Double Barrel Drop ⁽¹⁵⁾ SWR=Sweep Regressed ⁽¹⁴⁾ SWD=Sweep Drop ⁽¹⁴⁾ DMR = Dome Regressed ⁽¹⁴⁾ DMD = Dome Drop ⁽¹⁴⁾ BVR = Bevel Regressed BVD = Bevel Drop	UNV=Universal Voltage 120-277 347V=347 Volt ⁽⁶⁾	GL=Single Element Fuse GM=Double Element Fuse
Notes (11) Only product configurations with this designated prefix 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 (2) Installed Flex not available with ATW-SW4 option		Notes	Notes (2) Lumens are approximate. Use IES files for actual performance. (3) SLTD Driver not available on 70 and 80.	Notes (2) Lumens are approximate. Use IES files for actual performance. (4) Emergency Battery options not available with 347V at 6000, 7000 and 8000 lm outputs.	Notes (2) Lumens are approximate. Use IES files for actual performance. (4) Emergency Battery options not available with 347V at 10,000 lm output. (16) 9000 and 10,000 lm outputs utilize 2 drivers.	Notes (5) Lens options may be ordered as regressed or drop or they can be converted on site. (15) Double Barrel only available in 2x2 and 2x4 sizes (14) Sweep and Dome lenses only available in 2x2 size. Dome also available as 4x4 on separate spec sheet.	Notes (6) 347V with Emergency Battery options not available for all outputs (check notes for desired output) and not available with SD driver option.	

Emergency Options	CRI/CCT	Flex ⁽¹⁰⁾
[Blank]=No emergency EL7W=7-watt 120V-277V emergency battery pack ⁽⁷⁾ EL10W=10-watt 120V-277V emergency battery pack ⁽⁷⁾ EL14W=14-watt 120V-277V emergency battery pack ⁽⁷⁾ EL10WSD=10W emergency battery pack with self-diagnostic installed ^{(7),(9)} ETRD=Emergency Transfer Relay with dimming control ⁽⁸⁾	L830=80CRI, 3000K L835=80CRI, 3500K L840=80CRI, 4000K L850=80CRI, 5000K L930=90CRI, 3000K L935=90CRI, 3500K L940=90CRI, 4000K L950 = 90 CRI, 5000K 93050=White Tuning 3000K-5000K 92765=White Tuning 2700K-6500K B35=BioUp Static 3500K B40=BioUp Static 4000K B50=BioUp Static 5000K B2750=BioUp Tunable White 2700K-5000K	[Blank]=No Flex Dimming Flex W6DIM = 3/8" Flex with 0-10V Dimming Leads Non-Dimming Flex W6 = A 3/8" Flex with Line and Common*
Notes (7) Factory installed with integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. Battery option increases total height by 1 inch. (8) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). ETRD option only requires one relay when used on a dimming fixture. Must specify voltage as 120V or 277V when ordering these devices. (9) EL10WSD not available with 347V.	Notes	Flexible Metal Conduit Options (10) Multiple options available in online configurator. See additional notes on Flex below. Flex options available for 0-10V dimming control, DALI dimming control, emergency and night light functions. 72-inch factory-installed and pre-wired to driver, fitted to luminaire housing access plate with 90° enclosed FMC connector. Not all options may be combined and installation ratings vary by type.

Driver/Dimming Options	Number of Drivers	Integrated Sensing Systems	Options	Packaging	Accessories (order separately) ⁽¹²⁾
STD=CD 0-10V Driver (1%-100% Dimming) SLTD=5th Light DALI (5%-100%) SD=Step Dimming Driver (50%, 100% Dimming) LH=Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming ^(F)	[Blank]=1 Driver Z=2 Drivers	[Blank]=No Sensor WTK=WaveLinX Lite field-installed tile mount kit ^{(10),(A)} WPN=WaveLinX PRO Wireless Control Node, without sensor WLN=WaveLinX LITE Wireless Control Node, without sensor WTA=WaveLinX Pro field-installed tile mount kit	[Blank]=None AM=Anti Microbial Finish	U=Unit Pack PAL= Job Pack, out of carton	T3A END E.Q. BRACKET PARTS BAG (Standard with fixture) DF-22W-U=2' x 2' Drywall Frame Kit DF-24W-U=2' x 4' Drywall Frame Kit DF-14W-U=1' x 4' Drywall Frame Kit SUS-14-W = 1x4 suspension mount kit ⁽¹⁷⁾ SUS-22-W = 2x2 suspension mount kit ⁽¹⁷⁾ SUS-24-W = 2x4 suspension mount kit ⁽¹⁷⁾ 22CF1PK=Cube 1" Replacement Lens 22CF2PK=Cube 2" Replacement Lens 22CN2PK=Curved 2" Replacement Lens 22DB2PK=Double Barrel 2" Replacement Lens 22SWPK=Sweep Replacement Lens 24CF1PK=Cube 1" Replacement Lens 24CF2PK=Cube 2" Replacement Lens 24CN2PK=Curved 2" Replacement Lens 24DB2PK=Double Barrel 2" Replacement Lens 14CF1PK=Cube 1" Replacement Lens 14CF2PK=Cube 2" Replacement Lens 14CN2PK=Curved 2" Replacement Lens
Notes Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (F) Consult Marketplace Options - Lutron system pages for additional details and compatibility. Compatible only with driver series shown, and may require two or more drivers. Requires field commissioning to operate or dim. Contact Lutron at www.lutron.com		Notes (10) Must be used with STD driver. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinX PRO system pages for additional details and compatibility. (B) WaveLinX LITE devices are not currently compatible with the WaveLinX Wireless Area Controller. Consult WaveLinX LITE system pages for additional details and compatibility.			Notes (17) IP66 rating and wet location listing not applicable when used with suspended mount kits. (12) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.

Product Specifications

Construction and Mounting

- Extruded aluminum channels form rigid housing for robust life and aesthetic appeal
- Extruded edges are smooth to enable easy installation
- Earthquake clips are included on every fixture to ensure code compliance for all regions
- If desired, one extruded frame member may be removed to enable lens conversion between regress and drop arrangement during installation
- Drywall frame and suspension kits available (must be ordered separately as accessories)
- Four auxiliary fixture suspension points for use with suspension option
- Driver enclosures use access plate to speed wiring and conduit installation with additional KO on sides. There are six KO
- Chicago plenum option available
- Acrylic lenses available in a wide variety of concave or convex shapes

Integrated Controls

- 0-10V dimming to 1% standard
- Tile mount WaveLinX Pro and Lite sensors available for standalone, controlled, connected, and IoT capability
- DALI 2.0, Lutron, and step-dimming available

LED and Light Engine

- LEDs available in either 80+ or 90+ CRI
- LED's available in 3000K, 3500K, 4000K, or 5000K
- TM21 life at 60,000 hours up to L74
- Drivers available in 120-277V and 347V
- BioUp melanopic lighting options available in static or tunable white (Coming Soon)
- Efficacy up to 136 lm/W

Emergency Battery Options

- 120V-277V integral emergency battery pack comes in 7-watts, 10-watt, or 14-watts
- Self-diagnostic emergency battery available in 10 or 14-watts (NFPA 101® Life Safety Code®)
- Constant power to the LED system for controlled, predictable discharge
- Integrated test switch/indicator light visible from floor
- Min. 90-minute backup period for code compliance
- Integral emergency transfer relay available for generator equipped power systems

Finish

- 90% reflective, matte white enamel finish
- Full fixture housing painted after fabrication for maximum consistency even at mitered corners
- Back plate and J-box are constructed of code gauge steel for code compliance

Shielding

- Multiple acrylic lens options enable regression and drop options from factory or change at installation
- Acrylic lenses are finely textured to optimize aesthetics, cleaning and do not show finger prints after installation
- Texture is specifically designed to limit glare from other light sources in on or off state
- 5 regressed options and 5 drop lens options enables versatility in many spaces
- Lenses are made with smooth corners and no sharp edges to enable easy cleaning and maintenance

Compliance

- IC rated for insulation contact
- cULus listed for damp locations for all lens options
- cULus listed for wet location, IP66, (with regressed lens options)
- RoHS compliant
- Tested to IESNA LM-79 and LM-80
- Stated life tested to TM21 standards
- Can be used for State of California Title 24 high efficacy luminaire
- DesignLights Consortium® Qualified and classified for DLC Standard (refer to www.designlights.org)
- BAA option available (Coming Soon)

Weight

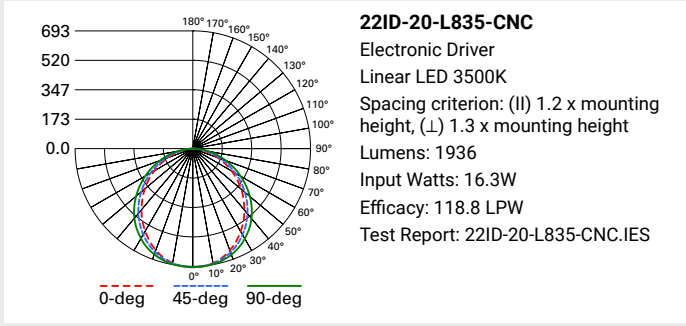
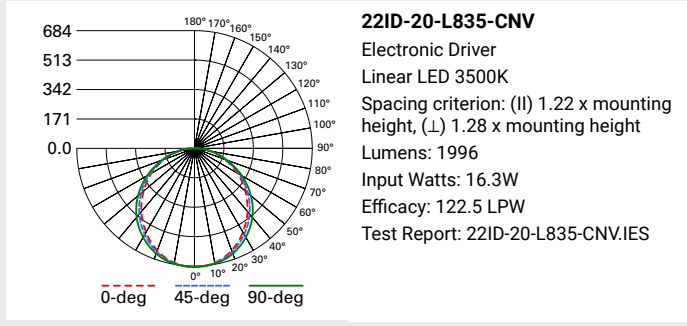
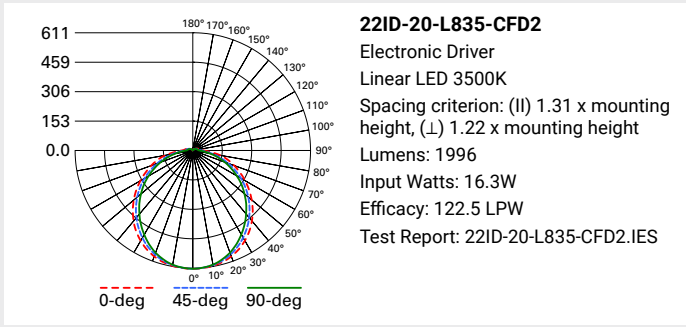
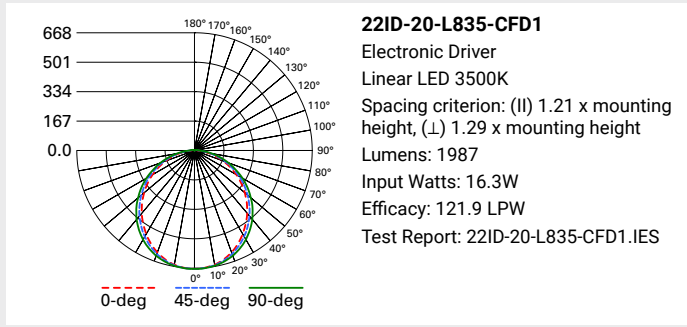
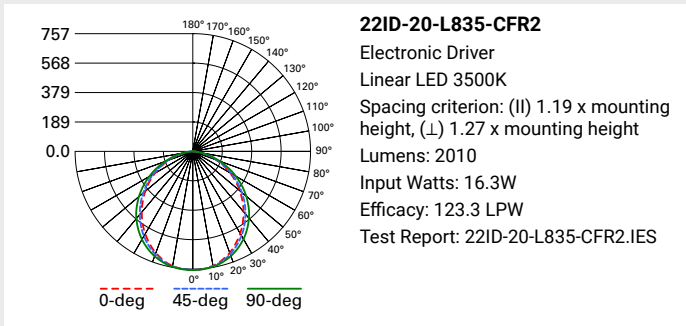
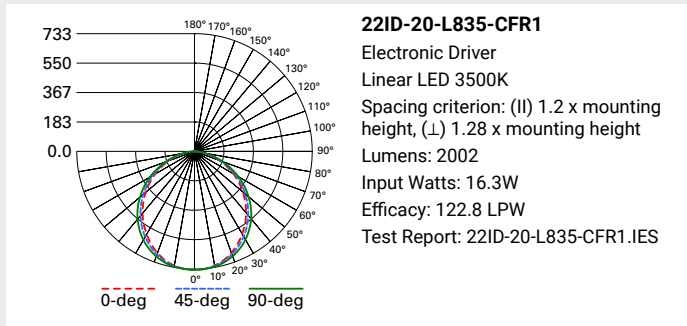
- 1 x 4 = 30.6 lbs.
- 2 x 2 = 28.8 lbs.
- 2 x 4 = 40.5 lbs.

Warranty

- Five year warranty standard. Extended ten year warranty available

Photometric Data

[View IES files](#)



Uplight Metrics by Lens Option

	Shielding	Uplight
	CFR1	0%
	CFR2	0%
	CFD1	2%
	CFD2	5%
	CNC	0%
	CNV	1%
	DBR	0%
	DBD	3%
	SWR	0%
	SWD	1%

Energy and Performance Data

Electrical Performance - 1x4 - 80 CRI

CCT	Lumen Output	Delivered Nominal Lumens						Power	Efficacy (LPW)					
		CFR1	CFR2	CFD1	CFD2	CNC	CNV	Watts	CFR1	CFR2	CFD1	CFD2	CNC	CNV
3000K	20	2104	2186	2110	2198	2089	2113	18	120	124	120	125	119	119
	25	2608	2711	2616	2725	2590	2620	22	119	124	119	124	118	118
	30	3098	3220	3107	3237	3077	3112	26	118	122	118	123	117	117
	35	3570	3710	3580	3729	3545	3585	31	117	121	117	122	116	116
	40	4047	4206	4058	4228	4019	4065	35	115	120	116	120	114	114
	45	4505	4683	4518	4707	4474	4525	40	114	118	114	119	113	113
	50	4955	5150	4970	5177	4921	4977	44	112	117	113	117	112	112
	55	5396	5609	5412	5638	5359	5420	49	111	115	111	116	110	110
	60	5817	6046	5834	6077	5777	5842	54	109	113	109	114	108	108
	70	6319	6567	6337	6601	6275	6346	59	107	111	107	112	106	106
80	6963	7237	6983	7274	6915	6993	70	99	103	100	104	99	99	
3500K	20	2142	2226	2148	2237	2127	2151	18	122	126	122	127	121	122
	25	2655	2760	2663	2774	2637	2667	22	121	126	122	127	120	122
	30	3154	3278	3163	3295	3132	3168	26	120	125	120	125	119	120
	35	3634	3777	3644	3797	3609	3650	31	119	123	119	124	118	119
	40	4120	4282	4132	4304	4091	4138	35	117	122	118	123	117	118
	45	4587	4767	4600	4792	4555	4607	40	116	120	116	121	115	116
	50	5045	5243	5059	5271	5010	5067	44	114	119	115	120	114	115
	55	5494	5710	5510	5740	5456	5518	49	113	117	113	118	112	113
	60	5922	6155	5939	6187	5881	5948	54	111	115	111	116	110	111
	70	6433	6686	6451	6721	6388	6461	59	109	113	109	114	108	110
80	7089	7368	7109	7406	7040	7120	70	101	105	102	106	101	102	
4000K	20	2190	2276	2196	2288	2175	2200	18	124	129	125	130	124	125
	25	2715	2822	2723	2837	2697	2727	22	124	129	124	130	123	125
	30	3226	3352	3235	3370	3203	3240	26	123	127	123	128	122	123
	35	3716	3862	3727	3883	3691	3733	31	121	126	122	127	121	122
	40	4213	4379	4225	4402	4184	4232	35	120	125	120	125	119	121
	45	4691	4875	4704	4901	4658	4711	40	118	123	119	124	118	119
	50	5159	5362	5174	5390	5123	5182	44	117	122	117	122	116	117
	55	5618	5839	5634	5870	5579	5643	49	115	120	116	121	115	116
	60	6056	6294	6073	6327	6014	6083	54	111	111	111	111	111	111
	70	6578	6837	6597	6873	6533	6607	59	111	116	112	116	111	112
80	7249	7534	7270	7573	7199	7281	70	104	108	104	108	103	104	
5000K	20	2197	2283	2203	2295	2182	2206	18	125	130	125	130	124	125
	25	2724	2831	2732	2846	2705	2736	22	124	129	125	130	124	125
	30	3235	3363	3245	3380	3213	3250	26	123	128	123	129	122	124
	35	3728	3874	3738	3894	3702	3744	31	122	127	122	127	121	122
	40	4226	4392	4238	4415	4197	4245	35	120	125	121	126	120	121
	45	4705	4890	4719	4916	4672	4726	40	119	123	119	124	118	119
	50	5175	5378	5190	5406	5139	5198	44	117	122	118	123	117	118
	55	5635	5857	5652	5888	5596	5660	49	116	120	116	121	115	116
	60	6075	6314	6092	6346	6033	6101	54	111	111	111	111	111	111
	70	6598	6858	6617	6894	6553	6627	59	112	116	112	117	111	112
80	7271	7557	7292	7597	7221	7303	70	104	108	104	109	103	104	

Energy and Performance Data

Glare Performance - 1x4

Size	Lumen Pkg	UGR [CIE 190:2010] ⁽¹⁾ (4H, 8H; Reflectance: 70% Ceiling, 50% Wall, 20% Ref. Plane)						MAX LUMINANCE [45-90 DEG FROM NADIR] ⁽²⁾ (CD/M^2)					
		CFR1	CFR2	CFD1	CFD2	CNC	CNV	CFR1	CFR2	CFD1	CFD2	CNC	CNV
1x4	2000	17.7	17.8	18.0	18.2	17.8	18.5	1996	2128	1819	1700	1895	1687
	2500	18.5	18.5	18.7	19.0	18.6	19.3	2474	2638	2255	2108	2350	2092
	3000	19.0	19.1	19.3	19.6	19.2	19.9	2939	3134	2678	2504	2791	2485
	3500	19.5	19.6	19.8	20.1	19.7	20.4	3386	3610	3086	2886	3215	2863
	4000	20.0	20	20.3	20.5	20.1	20.8	3839	4093	3499	3271	3645	3246
	4500	20.3	20.4	20.6	20.9	20.5	21.2	4274	4557	3895	3642	4059	3614
	5000	20.7	20.7	21.0	21.2	20.8	21.5	4701	5012	4284	4006	4464	3974
	5500	21.0	21.0	21.3	21.5	21.1	21.8	5119	5458	4666	4363	4861	4328
	6000	21.2	21.3	21.5	21.8	21.4	22.0	5518	5883	5029	4703	5240	4665
	7000	21.5	21.6	21.8	22.1	21.7	22.3	5994	6390	5463	5108	5692	5068
8000	21.9	21.9	21.2	22.4	22.0	22.7	6605	7042	6020	5629	6272	5584	

Notes: (1) For other UGR data for room or reflective ceiling plans please see technical data on website. (2) For other CCT please see technical data on website.

Notes:

- (1) UGR values per CIE 190:2010 with 4H, 8H, Reflectance: 70% Ceiling, 50% Wall, 20% Ref. Plane
- (2) For other UGR data for room or reflective ceiling plans please see technical data on website.
- (3) Luminance measured at 45-90 degrees from nadir.
- (4) UGR and Luminance values that meet WELL v2 L04 requirements for Managing Glare are shown with green highlighted cell. (UGR < 16 or Luminance < 6,000, Indirect-only)
- (5) UGR and Luminance values that meet LEED v4.1 requirements for Glare Control are shown with green text. (UGR < 19 or Luminance < 7,000, Indirect-only)
- (6) For technical data of other configurations please see photometric section on website or click link at top-right

KEY:

	Meets WELL v2
TEXT	Meets LEED v4.1

Nominal Lumen Maintenance

TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (hours) ⁽³⁾
> 74%	-

Notes: (3) Theoretical values represent estimations. Refer to LED Product Lifetime Prediction, IES PS-10-18, that explains proper use of IES TM-21 and LM-80.

Load Data

Thd	6%
Power Factor	0.99
Weight (lbs.)	10.6
Low Temp. Start	-20°C

Lumen Multipliers

CCT Multiplier	80 CRI	90 CRI
3000K	0.98	0.83
3500K	1.00	0.85
4000K	1.03	0.90
5000K	1.07	0.87

Shipping Data

Lens Catalog No.	Weight (lbs)	Units per Pallet 49" L x 52" W x 55" H
CFR1, CFR2, CNC, DBR, SWR	16	18
CFD1, CFD2, CFD3, CNV, DBD, SWD	16	10

Example of Lumen Adjustment Calculation

22ID-40-CFR2-L835 at 90CRI at 5000K
 Lumen Adjustment Factor = 0.87
 Total Light Output =
 4,437 lm x 0.87 = 3,860 lm
 Efficacy = $\frac{3,860 \text{ lm}}{35\text{W}}$ = 110 lm/W

Energy and Performance Data

Electrical Performance - 2x2 - 80 CRI

CCT	Lumen Output	Delivered Nominal Lumens										Power Watts	Efficacy (LPW)									
		CFR1	CFR2	CFD1	CFD2	CNC	CNV	DBR	DBD	SWR	SWD		CFR1	CFR2	CFD1	CFD2	CNC	CNV	DBR	DBD	SWR	SWD
3000K	20	2110	2184	2170	2214	2145	2168	2200	2211	2184	2190	17	124	128	127.66	130	126.20	128	129	130	128	129
	25	2670	2763	2746	2802	2715	2744	2784	2798	2764	2772	22	122	127	125.98	129	124.54	126	128	128	127	127
	30	3104	3212	3193	3257	3156	3189	3236	3253	3213	3222	26	122	126	125.20	128	123.77	125	127	128	126	126
	35	3755	3886	3862	3940	3818	3859	3915	3936	3887	3898	31	120	125	123.79	126	122.38	124	125	126	125	125
	40	4211	4358	4331	4418	4282	4327	4390	4413	4358	4371	35	120	124	123.04	126	121.64	123	125	125	124	124
	45	4531	4689	4660	4754	4607	4655	4723	4748	4689	4703	39	116	121	119.80	122	118.43	120	121	122	121	121
	50	5124	5303	5270	5376	5210	5265	5342	5370	5303	5318	45	114	118	117.64	120	116.29	118	119	120	118	119
	55	5643	5840	5804	5921	5738	5798	5883	5914	5841	5857	49	116	120	118.94	121	117.58	119	121	121	120	120
	60	6072	6284	6246	6371	6174	6239	6330	6364	6285	6303	53	116	120	118.97	121	117.61	119	121	121	120	120
	70	7044	7289	7245	7391	7162	7238	7343	7382	7290	7311	63	113	117	115.92	118	114.59	116	117	118	117	117
80	7361	7618	7571	7724	7485	7564	7674	7715	7619	7641	69	107	111	110.37	113	109.11	110	112	112	111	111	
3500K	20	2148	2223	2209	2254	2184	2207	2239	2251	2223	2230	17	126	131	130	133	128	130	132	132	131	131
	25	2718	2813	2796	2852	2764	2793	2834	2849	2814	2822	22	125	129	128	131	127	128	130	131	129	129
	30	3160	3270	3250	3316	3213	3247	3294	3312	3271	3280	26	124	128	127	130	126	127	129	130	128	129
	35	3823	3956	3932	4011	3887	3928	3986	4007	3957	3968	31	123	127	126	129	125	126	128	128	127	127
	40	4287	4437	4409	4498	4359	4405	4469	4493	4437	4450	35	122	126	125	128	124	125	127	128	126	126
	45	4613	4774	4744	4840	4690	4740	4809	4834	4774	4788	39	119	123	122	124	121	122	124	124	123	123
	50	5216	5398	5365	5473	5304	5360	5438	5467	5399	5415	45	116	121	120	122	118	120	121	122	121	121
	55	5745	5945	5909	6028	5842	5903	5989	6021	5946	5963	49	118	122	121	124	120	121	123	123	122	122
	60	6182	6398	6359	6486	6286	6352	6445	6479	6399	6417	53	118	122	121	124	120	121	123	123	122	122
	70	7171	7421	7376	7524	7291	7368	7476	7516	7422	7443	63	115	119	118	120	117	118	120	120	119	119
80	7494	7756	7708	7863	7620	7700	7813	7854	7757	7779	69	109	113	112	115	111	112	114	114	113	113	
4000K	20	2197	2273	2259	2305	2234	2257	2290	2302	2274	2280	17	129	134	133	136	131	133	135	135	134	134
	25	2780	2877	2859	2917	2827	2856	2898	2914	2877	2885	22	128	132	131	134	130	131	133	134	132	132
	30	3232	3344	3324	3391	3286	3320	3369	3387	3345	3354	26	127	131	130	133	129	130	132	133	131	132
	35	3910	4046	4021	4102	3975	4017	4076	4097	4046	4058	31	125	130	129	131	127	129	131	131	130	130
	40	4384	4537	4509	4600	4458	4505	4570	4595	4538	4551	35	125	129	128	131	127	128	130	131	129	129
	45	4717	4882	4852	4949	4796	4847	4917	4944	4882	4896	39	121	125	125	127	123	125	126	127	126	126
	50	5334	5521	5487	5597	5424	5481	5561	5591	5521	5537	45	119	123	122	125	121	122	124	125	123	124
	55	5875	6080	6043	6164	5974	6037	6125	6157	6081	6098	49	120	125	124	126	122	124	126	126	125	125
	60	6322	6543	6502	6633	6428	6496	6591	6626	6543	6562	53	120	125	124	126	122	124	126	126	125	125
	70	7333	7589	7543	7694	7456	7535	7645	7686	7590	7612	63	117	121	121	123	119	121	122	123	121	122
80	7664	7931	7883	8041	7793	7875	7990	8032	7932	7955	69	112	116	115	117	114	115	116	117	116	116	
5000K	20	2203	2280	2266	2312	2240	2264	2297	2309	2281	2287	17	130	134	133	136	132	133	135	136	134	135
	25	2788	2886	2868	2926	2835	2865	2907	2922	2886	2894	22	128	132	132	134	130	131	133	134	132	133
	30	3241	3355	3334	3401	3296	3331	3379	3397	3355	3365	26	127	132	131	133	129	131	133	133	132	132
	35	3921	4058	4033	4115	3987	4029	4088	4110	4059	4070	31	126	130	129	132	128	129	131	132	130	130
	40	4397	4551	4523	4614	4471	4519	4584	4609	4551	4565	35	125	129	128	131	127	128	130	131	129	130
	45	4731	4896	4867	4964	4811	4862	4933	4959	4897	4911	39	122	126	125	128	124	125	127	127	126	126
	50	5351	5538	5504	5614	5441	5498	5578	5608	5538	5554	45	119	124	123	125	121	123	125	125	124	124
	55	5893	6099	6061	6183	5992	6055	6144	6176	6099	6117	49	121	125	124	127	123	124	126	127	125	125
	60	6341	6563	6522	6654	6448	6516	6611	6646	6563	6582	53	121	125	124	127	123	124	126	127	125	125
	70	7356	7612	7566	7718	7479	7558	7669	7709	7613	7635	63	118	122	121	123	120	121	123	123	122	122
80	7687	7955	7907	8066	7816	7899	8014	8057	7956	7979	69	112	116	115	118	114	115	117	117	116	116	

Energy and Performance Data

Glare Performance - 2x2

SIZE	Lumen Pkg	UGR [CIE 190:2010] ⁽¹⁾ (4H, 8H; Reflectance: 70% Ceiling, 50% Wall, 20% Ref. Plane)										MAX LUMINANCE [45-90 DEG FROM NADIR] ⁽²⁾ (CD/M ²)									
		CFR1	CFR2	CFD1	CFD2	CNC	CNV	DBR	DBD	SWR	SWD	CFR1	CFR2	CFD1	CFD2	CNC	CNV	DBR	DBD	SWR	SWD
2X2	2000	17.5	17.2	17.5	17.6	17.9	17.3	18.2	17.6	18	17.1	1921	1992	1814	1686	1956	1724	2033	1793	1969	1811
	2500	18.3	18.1	18.4	18.4	18.7	18.2	19.0	18.4	19	17.9	2431	2520	2295	2133	2475	2181	2573	2269	2492	2291
	3000	18.8	18.6	18.9	19.0	19.3	18.7	19.5	18.9	19	18.4	2826	2930	2668	2480	2877	2536	2990	2637	2897	2664
	3500	19.5	19.2	19.5	19.6	19.9	19.3	20.2	19.6	20	19.1	3419	3545	3227	3000	3481	3068	3618	3190	3505	3223
	4000	19.9	19.6	19.9	20.0	20.3	19.7	20.6	20.0	20	19.5	3833	3975	3619	3364	3903	3440	4057	3578	3931	3614
	4500	20.1	19.9	20.2	20.3	20.6	20.0	20.8	20.2	21	19.7	4125	4277	3894	3620	4200	3701	4365	3850	4229	3888
	5000	20.5	20.3	20.6	20.7	21.0	20.4	21.3	20.6	21	20.2	4665	4837	4404	4094	4749	4186	4937	4353	4783	4398
	5500	20.9	20.7	21.0	21.0	21.3	20.8	21.6	21.0	21	20.5	5137	5327	4850	4508	5230	4610	5437	4794	5267	4843
	6000	21.1	20.9	21.2	21.3	21.6	21.0	21.9	21.2	22	20.8	5528	5732	5219	4851	5628	4961	5851	5159	5668	5212
	7000	21.6	21.4	21.7	21.8	22.1	21.5	22.4	21.8	22	21.3	6412	6649	6054	5627	6529	5754	6787	5985	6575	6045
8000	21.8	21.6	21.9	22.0	22.3	21.7	22.5	21.9	22	21.4	6701	6949	6326	5881	6823	6014	7093	6254	6871	6318	

Notes: (1) For other UGR data for room or reflective ceiling plans please see technical data on website. (2) For other CCT please see technical data on website.

KEY:

	Meets WELL v2
TEXT	Meets LEED v4.1

Notes:

- (1) UGR values per CIE 190:2010 with 4H, 8H, Reflectance: 70% Ceiling, 50% Wall, 20% Ref. Plane
- (2) For other UGR data for room or reflective ceiling plans please see technical data on website.
- (3) Luminance measured at 45-90 degrees from nadir.
- (4) UGR and Luminance values that meet WELL v2 L04 requirements for Managing Glare are shown with green highlighted cell. (UGR < 16 or Luminance < 6,000, Indirect-only)
- (5) UGR and Luminance values that meet LEED v4.1 requirements for Glare Control are shown with green text. (UGR < 19 or Luminance < 7,000, Indirect-only)
- (6) For technical data of other configurations please see photometric section on website or click link at top-right

Nominal Lumen Maintenance

TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (hours) ⁽³⁾
> 74%	-

Notes: (3) Theoretical values represent estimations. Refer to LED Product Lifetime Prediction, IES PS-10-18, that explains proper use of IES TM-21 and LM-80.

Load Data

Thd	6%
Power Factor	0.99
Weight (lbs.)	10.6
Low Temp. Start	-20°C

Lumen Multipliers

CCT Multiplier	80 CRI	90 CRI
3000K	0.98	0.83
3500K	1.00	0.85
4000K	1.03	0.90
5000K	1.07	0.87

Shipping Data

Lens Catalog No.	Weight (lbs)	Units per Pallet 49"L x 52"W x 55"H
CFR1, CFR2, CNC, DBR, SWR	16	18
CFD1, CFD2, CFD3, CNV, DBD, SWD	16	10

Example of Lumen Adjustment Calculation

22ID-40-CFR2-L835 at 90CRI at 5000K
 Lumen Adjustment Factor = 0.87
 Total Light Output =
 4,437 lm x 0.87 = 3,860 lm
 Efficacy = $\frac{3,860 \text{ lm}}{35 \text{ W}}$ = 110 lm/W

Energy and Performance Data

Electrical Performance - 2x4 - 80 CRI

CCT	Lumen Output	Delivered Nominal Lumens								Power Watts	Efficacy (LPW)							
		CFR1	CFR2	CFD1	CFD2	CNC	CNV	DBR	DBD		CFR1	CFR2	CFD1	CFD2	CNC	CNV	DBR	DBD
3000K	20	2119	2120	2128	2065	2097	2111	2099	2109	18	121	121	122	118	120	121	120	121
	25	2635	2636	2646	2567	2608	2626	2610	2623	22	121	121	121	118	120	120	120	120
	30	3159	3161	3172	3078	3127	3148	3129	3145	26	121	121	122	118	120	121	120	120
	35	3674	3677	3690	3580	3637	3662	3639	3658	30	121	121	121	118	120	120	120	120
	40	4186	4189	4204	4079	4144	4172	4147	4168	35	121	121	121	118	119	120	120	120
	45	4695	4698	4715	4575	4648	4679	4651	4675	39	120	120	121	117	119	120	119	120
	50	5206	5210	5228	5073	5153	5188	5157	5183	43	121	121	121	117	119	120	119	120
	55	5706	5710	5730	5560	5648	5686	5652	5681	48	120	120	121	117	119	120	119	120
	60	6201	6206	6228	6043	6139	6180	6143	6174	52	119	120	120	116	118	119	118	119
	65	6699	6703	6727	6528	6631	6676	6636	6669	56	119	119	120	116	118	119	118	119
	70	7189	7194	7220	7005	7116	7164	7121	7158	60	119	119	120	116	118	119	118	119
	72	7681	7687	7714	7485	7604	7655	7609	7648	65	119	119	119	116	118	118	118	118
80	8168	8173	8202	7959	8085	8140	8091	8132	69	118	118	119	115	117	118	117	118	
90	9101	9107	9140	8869	9009	9070	9015	9061	78	117	117	117	114	116	116	116	116	
100	10036	10042	10078	9779	9934	10001	9941	9992	87	116	116	116	113	114	115	115	115	
3500K	20	2157	2158	2166	2102	2135	2150	2137	2148	18	123	123	124	120	122	123	122	123
	25	2682	2684	2694	2614	2655	2673	2657	2670	22	123	123	124	120	122	123	122	122
	30	3216	3218	3230	3134	3183	3205	3186	3202	26	123	123	124	120	122	123	122	123
	35	3741	3743	3756	3645	3703	3728	3705	3724	30	123	123	124	120	122	123	122	123
	40	4262	4265	4280	4153	4219	4247	4222	4243	35	123	123	123	120	122	122	122	122
	45	4780	4783	4800	4658	4732	4764	4735	4759	39	123	123	123	119	121	122	121	122
	50	5300	5304	5323	5165	5247	5282	5250	5277	43	123	123	123	120	121	122	122	122
	55	5809	5813	5833	5660	5750	5789	5754	5783	48	122	122	123	119	121	122	121	122
	60	6314	6318	6340	6152	6250	6292	6254	6286	52	122	122	122	119	120	121	121	121
	65	6820	6824	6849	6646	6751	6797	6756	6790	56	122	122	122	118	120	121	120	121
	70	7319	7324	7350	7132	7245	7294	7250	7287	60	121	121	122	118	120	121	120	121
	72	7820	7826	7853	7620	7741	7793	7746	7786	65	121	121	121	118	120	120	120	120
80	8316	8321	8351	8103	8231	8287	8237	8279	69	120	120	121	117	119	120	119	120	
90	9266	9272	9305	9029	9172	9234	9178	9225	78	119	119	119	116	118	118	118	118	
100	10217	10224	10260	9956	10114	10182	10121	10172	87	118	118	118	115	117	117	117	117	
4000K	20	2206	2207	2215	2149	2183	2198	2185	2196	18	126	126	127	123	125	126	125	125
	25	2743	2745	2754	2673	2715	2733	2717	2731	22	126	126	126	123	125	125	125	125
	30	3289	3291	3303	3205	3255	3277	3258	3274	26	126	126	127	123	125	126	125	125
	35	3825	3828	3841	3727	3786	3812	3789	3808	30	126	126	126	123	125	125	125	125
	40	4358	4361	4377	4247	4314	4343	4317	4339	35	126	126	126	122	124	125	124	125
	45	4888	4891	4909	4763	4839	4871	4842	4867	39	125	125	126	122	124	125	124	125
	50	5420	5424	5443	5282	5365	5402	5369	5396	43	125	126	126	122	124	125	124	125
	55	5940	5944	5965	5789	5880	5920	5884	5914	48	125	125	126	122	124	125	124	125
	60	6456	6461	6484	6291	6391	6434	6396	6428	52	124	124	125	121	123	124	123	124
	65	6974	6979	7004	6796	6904	6950	6908	6944	56	124	124	125	121	123	124	123	124
	70	7485	7490	7516	7293	7409	7459	7414	7452	60	124	124	124	121	123	123	123	124
	72	7997	8003	8031	7793	7916	7970	7922	7962	65	124	124	124	120	122	123	122	123
80	8504	8509	8540	8286	8418	8475	8424	8467	69	123	123	124	120	122	123	122	123	
90	9475	9482	9515	9233	9380	9443	9386	9434	78	121	122	122	118	120	121	120	121	
100	10448	10455	10492	10181	10342	10412	10350	10402	87	120	120	121	117	119	120	119	120	
5000K	20	2213	2214	2222	2156	2190	2205	2192	2203	18	126	127	127	123	125	126	125	126
	25	2751	2753	2763	2681	2723	2742	2725	2739	22	126	126	127	123	125	126	125	126
	30	3299	3301	3313	3214	3265	3287	3268	3284	26	126	126	127	123	125	126	125	126
	35	3837	3840	3853	3739	3798	3824	3801	3820	30	126	126	127	123	125	126	125	126
	40	4372	4375	4390	4260	4327	4357	4330	4353	35	126	126	127	123	125	126	125	125
	45	4903	4906	4924	4778	4854	4886	4857	4882	39	126	126	126	123	124	125	125	125
	50	5437	5440	5460	5298	5382	5418	5385	5413	43	126	126	126	123	125	125	125	125
	55	5958	5963	5984	5806	5898	5938	5902	5932	48	125	126	126	122	124	125	124	125
	60	6476	6481	6504	6311	6411	6454	6415	6448	52	125	125	125	122	124	124	124	124
	65	6995	7000	7025	6817	6925	6972	6930	6965	56	125	125	125	122	123	124	124	124
	70	7508	7513	7539	7316	7432	7482	7437	7475	60	124	124	125	121	123	124	123	124
	72	8022	8027	8056	7817	7941	7994	7946	7987	65	124	124	125	121	123	124	123	123
80	8530	8536	8566	8312	8443	8501	8449	8492	69	123	124	124	120	122	123	122	123	
90	9504	9511	9545	9262	9408	9472	9415	9463	78	122	122	122	119	121	121	121	121	
100	10480	10487	10524	10212	10374	10444	10381	10434	87	121	121	121	118	120	120	120	120	

Energy and Performance Data

Glare Performance - 2x4

Size	Lumen Pkg	UGR [CIE 190:2010] ⁽¹⁾ (4H, 8H; Reflectance: 70% Ceiling, 50% Wall, 20% Ref. Plane)								MAX LUMINANCE [45-90 DEG FROM NADIR] ⁽²⁾ (CD/M ²)							
		CFR1	CFR2	CFD1	CFD2	CNC	CNV	DBR	DBD	CFR1	CFR2	CFD1	CFD2	CNC	CNV	DBR	DBD
2x4	2000	15.3	15.3	15.4	15.8	15.4	15.1	15.7	15.6	979	990	917	860	955	892	946	865
	2500	16.1	16.0	16.1	16.6	16.1	15.9	16.5	16.3	1217	1231	1140	1069	1188	1110	1177	1075
	3000	16.7	16.7	16.8	17.2	16.7	16.5	17.1	16.9	1460	1476	1366	1281	1424	1331	1411	1290
	3500	17.2	17.2	17.3	17.7	17.3	17.0	17.6	17.5	1698	1716	1589	1490	1656	1548	1641	1500
	4000	17.7	17.6	17.8	18.2	17.7	17.5	18.1	17.9	1935	1956	1811	1698	1887	1763	1869	1709
	4500	18.1	18.0	18.1	18.6	18.1	17.9	18.5	18.3	2170	2193	2031	1905	2116	1978	2097	1917
	5000	18.5	18.4	18.5	19.0	18.5	18.2	18.8	18.7	2406	2432	2252	2112	2347	2193	2325	2125
	5500	18.8	18.7	18.8	19.3	18.8	18.6	19.2	19.0	2637	2665	2468	2315	2572	2403	2548	2329
	6000	19.1	19.0	19.1	19.6	19.1	18.9	19.5	19.3	2866	2897	2683	2516	2795	2612	2769	2532
	6500	19.3	19.3	19.4	19.8	19.4	19.1	19.7	19.6	3096	3129	2898	2718	3019	2822	2991	2734
	7000	19.6	19.5	19.6	20.1	19.6	19.4	20.0	19.8	3322	3358	3110	2916	3240	3028	3210	2935
	7200	19.8	19.7	19.9	20.3	19.8	19.6	20.2	20.0	3550	3589	3323	3116	3462	3236	3430	3136
	8000	20.0	20.0	20.1	20.5	20.0	19.8	20.4	20.3	3775	3816	3533	3313	3682	3440	3647	3334
	9000	20.4	20.3	20.4	20.9	20.4	20.2	20.8	20.6	4206	4252	3937	3692	4102	3834	4064	3715
10000	20.7	20.7	20.8	21.2	20.8	20.5	21.1	21.0	4638	4688	4341	4071	4523	4227	4481	4096	

Notes: (1) For other UGR data for room or reflective ceiling plans please see technical data on website. (2) For other CCT please see technical data on website.

KEY:

	Meets WELL v2
TEXT	Meets LEED v4.1

Notes:

- (1) UGR values per CIE 190:2010 with 4H, 8H, Reflectance: 70% Ceiling, 50% Wall, 20% Ref. Plane
- (2) For other UGR data for room or reflective ceiling plans please see technical data on website.
- (3) Luminance measured at 45-90 degrees from nadir.
- (4) UGR and Luminance values that meet WELL v2 L04 requirements for Managing Glare are shown with green highlighted cell. (UGR < 16 or Luminance < 6,000, Indirect-only)
- (5) UGR and Luminance values that meet LEED v4.1 requirements for Glare Control are shown with green text. (UGR < 19 or Luminance < 7,000, Indirect-only)
- (6) For technical data of other configurations please see photometric section on website or click link at top-right

Nominal Lumen Maintenance

TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (hours) ⁽³⁾
> 74%	-

Notes: (3) Theoretical values represent estimations. Refer to LED Product Lifetime Prediction, IES PS-10-18, that explains proper use of IES TM-21 and LM-80.

Load Data

Thd	6%
Power Factor	0.99
Weight (lbs.)	10.6
Low Temp. Start	-20°C

Lumen Multipliers

CCT Multiplier	80 CRI	90 CRI
3000K	0.98	0.83
3500K	1.00	0.85
4000K	1.03	0.90
5000K	1.07	0.87

Shipping Data

Lens Catalog No.	Weight (lbs)	Units per Pallet 49"L x 52"W x 55"H
CFR1, CFR2, CNC, DBR, SWR	16	18
CFD1, CFD2, CFD3, CNV, DBD, SWD	16	10

Example of Lumen Adjustment Calculation

22ID-40-CFR2-L835 at 90CRI at 5000K
 Lumen Adjustment Factor = 0.87
 Total Light Output =
 $4,437 \text{ lm} \times 0.87 = 3,860 \text{ lm}$
 Efficacy = $\frac{3,860 \text{ lm}}{35 \text{ W}} = 110 \text{ lm/W}$

TM30 Data

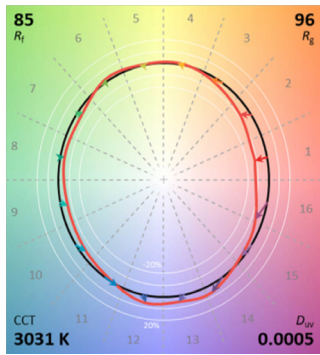
Color Data (3000K)

		80CRI	90CRI
TM-30-15	R _f	85	92
	R _g	96	99
CRI/CIE	R _a	83	93
	R9	6	59

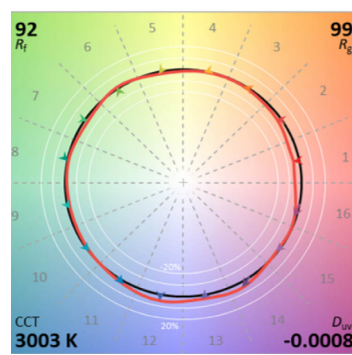
Color Data (3500K)

		80CRI	90CRI
TM-30-15	R _f	85	92
	R _g	95	100
CRI/CIE	R _a	84	94
	R9	14	64

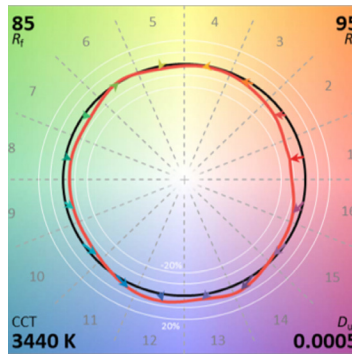
80CRI



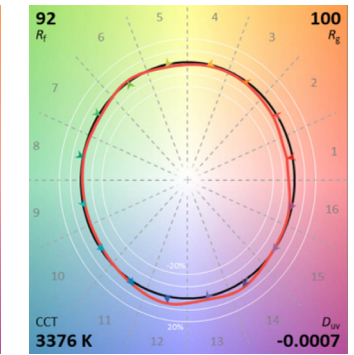
90CRI



80CRI



90CRI



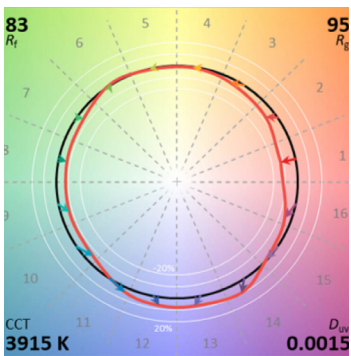
Color Data (4000K)

		80CRI	90CRI
TM-30-15	R _f	83	91
	R _g	95	99
CRI/CIE	R _a	82	92
	R9	8	62

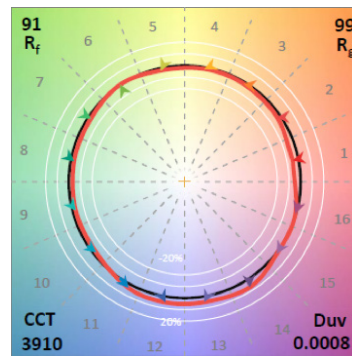
Color Data (5000K)

		80CRI	90CRI
TM-30-15	R _f	84	91
	R _g	96	97
CRI/CIE	R _a	83	94
	R9	10	78

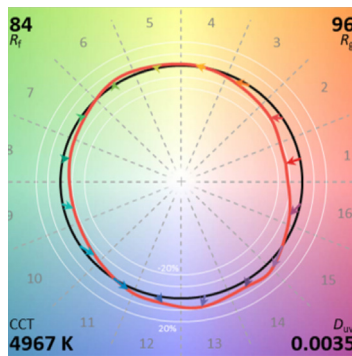
80CRI



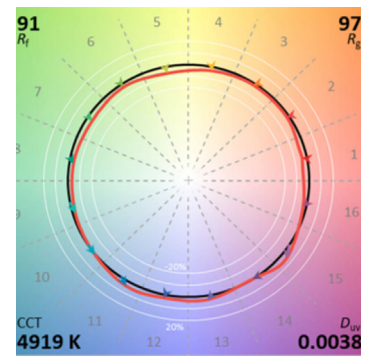
90CRI



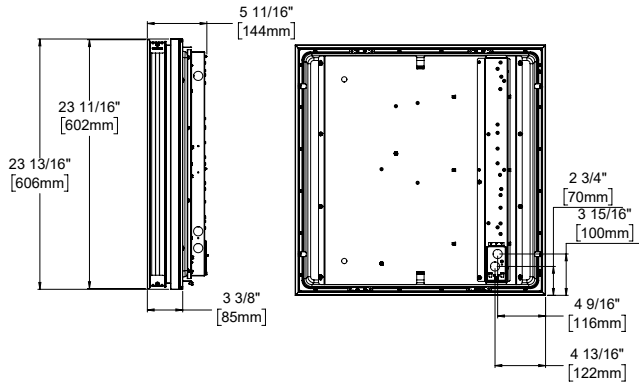
80CRI



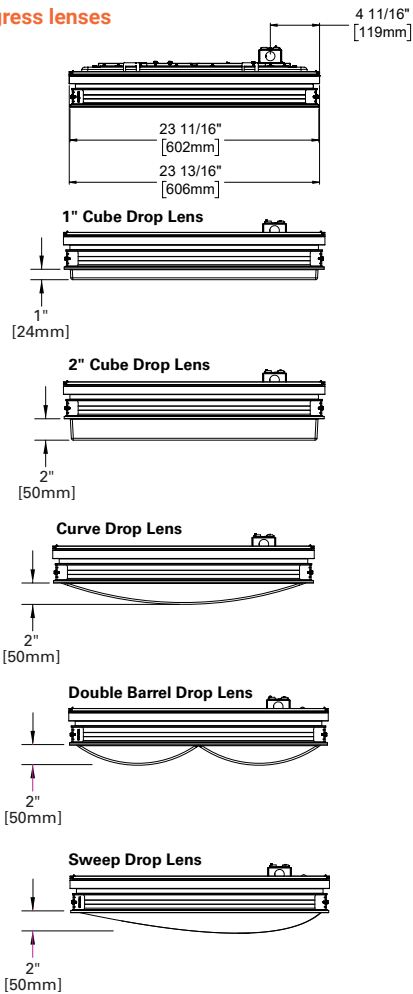
90CRI



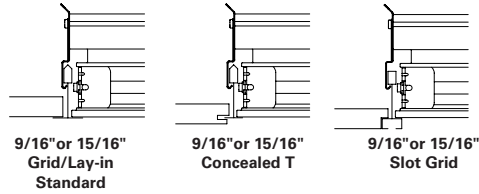
Dimensional and Shielding Details



Fixture dimensions with regress lenses



Ceiling Compatibility



Ceiling Mounting Options

Ceiling Mounting Options, ordered separately as an accessory. Suspension Cover, ordered separately as an accessory.

Application	Catalog	Description
Hard Ceiling Recessed	DF-22W-U	2x2 Dry Wall Frame Kit
Hard Ceiling Recessed	DF-24W-U	2x4 Dry Wall Frame Kit
Hard Ceiling Recessed	DF-14W-U	1x4 Dry Wall Frame Kit

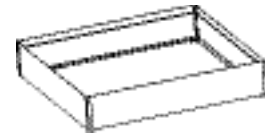
Notes: IP66 rating and wet location listing not applicable when used with surface or suspended mount kits

Suspension Cover

Catalog	Description
SUS-14-W	Field installed suspension cover kit - side covers, corner covers and installation hardware
SUS-22-W	Field installed suspension cover kit - side covers, corner covers and installation hardware
SUS-24-W	Field installed suspension cover kit - side covers, corner covers and installation hardware

Notes: Snap on accessory kit may be applied at factory (SUS option) or as a kit and installed on site. See instruction sheet for more details.

IP66 rating and wet location listing not applicable when used with surface or suspended mount kits



Suspension Kit

Suspension Kit, Ordered separately as an accessory.

Catalog	Description
FPSUS2	2 point Y-hanger suspension kit includes aircraft cable, carabiner, ceiling connection, SO cord, cord connectors and round 4\"/>

Mounting height from ceiling
Min. = 7-1/4\"/>

Notes: IP66 rating and wet location listing not applicable when used with surface or suspended mount kits

Sweep Front View



Control Systems

- WaveLinx PRO Wireless
- WaveLinx LITE Wireless
- WaveLinx Wired

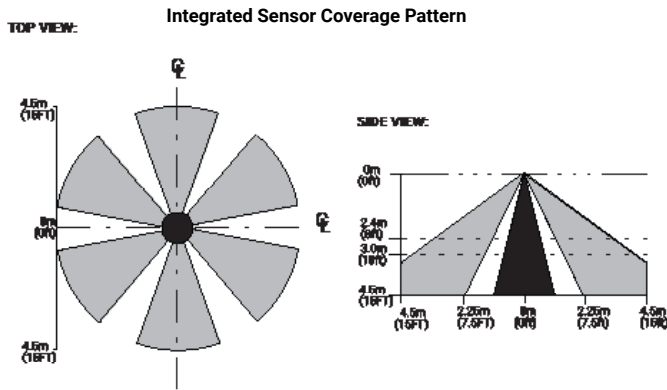
The InDepth with WaveLinx offers no-hassle lighting control with multiple luminaire level control solutions.

WaveLinx PRO is used for applications where spaces need to be connected to a lighting or building management system and to help building owners improve their operations, building environment, and tenants' experience by leveraging the data generated by the sensors. The WaveLinx PRO devices communicate with each other via the WaveLinx Area Controller which coordinates the data traffic between the devices, lighting apps and CORE platform. The WaveLinx Area Controller also hosts the time clock required if spaces need to be turned on/off at a specific time.

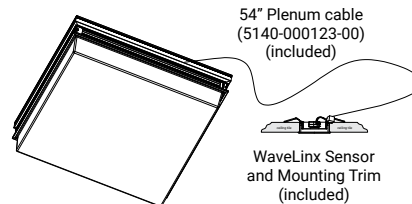
The WaveLinx PRO Sensor offers built-in occupancy and daylighting controls as well as luminaire level control including white tuning while the WaveLinx PRO Node offers luminaire level control and white tuning. If opting for the WaveLinx PRO Node option, a PRO Ceiling Sensor will most likely be needed within the space to control the lights based on occupancy and daylight levels.

WaveLinx LITE is used for single spaces where there is no need to manage the spaces remotely or exchange the sensor data with other sub-systems within the building or smart applications.

The WaveLinx LITE Sensor offers built-in occupancy and daylighting controls as well as luminaire level control.



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.



For more information on tilemount sensor specifications and installation, see WaveLinx PRO and WaveLinx LITE Tilemount Sensor Kit at cooperlighting.com.

Systems comparison chart

Cooper Lighting Solutions provides many lighting system solutions designed to satisfy code requirements and meet the unique needs of any project.



	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.

Coming Soon

Proven Research. Industry Recognized.

BioUp

Melanopic Lighting



See better



Feel better



Function better



See [BioUp brochure](#) for more details

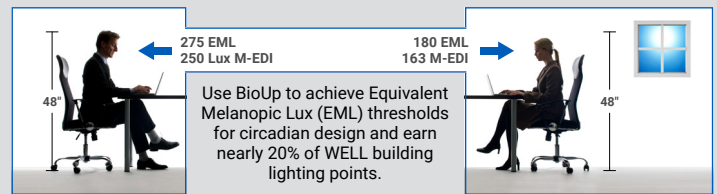


ANSI/IES RP-46-23 / TM18 published March 2024 based on over 40 years of research.

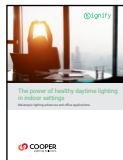
"...circadian clock synchronization is paramount to the body's efficient and appropriate functioning." – TM18



BioUp solutions maximize WELL points for Circadian Lighting Design (L03):



MDER, M-EDI and EML are key metrics used to quantify non-visual performance of indoor lighting systems.

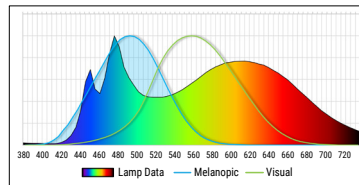
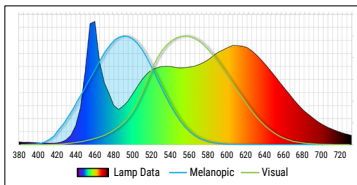


See [BioUp white paper](#) for more details

MDER - Melanopic Daylight Efficacy Ratio (MDER) measures the amount of light stimulating to the melanopsin receptors.

Standard 4000K LED
MDER = .62

BioUp 4000K LED
MDER = .82



30% boost Biological impact compared to traditional LED sources

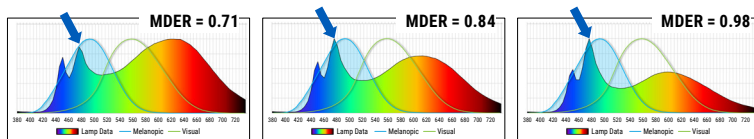
CCT	LED @ ~83 CRI	BioUp	CRI
2700K	0.44	0.43	91
3000K	0.49	0.54	87
3500K	0.56	0.71	85
4000K	0.64	0.84	83
5000K	0.77	0.98	81

BioUp enhances the LED spectrum with cyan light at 475nm increasing the biological impact of the light to enhance our circadian rhythm which regulates our sleep/wake cycle, daytime engagement, and mood – **all without distorting visual color impression.**

Static (non-tunable)

Static BioUp is used when simple Melanopic Lighting is desired at all times.

Arrow in graph shows BioUp spectrum boost is at 475nm where non-visual biological response is enhanced.



3500K or **4000K** or **5000K**

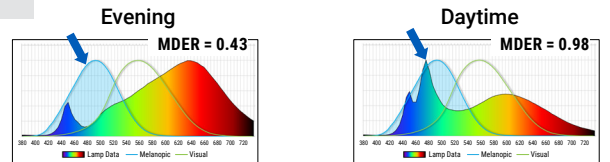
Cyan light component always present



> no CCT control needed

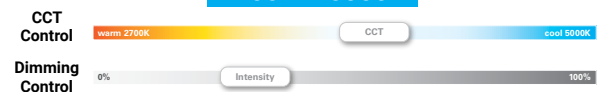
Dynamic - (Tunable)

Dynamic BioUp is used when Melanopic Lighting is desired to adjust during the day.



Warmer CCT **Without** Cyan content ← → Cooler Light **With** Cyan content

2700K – 5000K



> Control with Wavelinx, 2ch 0-10V, or DALI