Corelite

Continua™ SQ4R

LED
Recessed
Direct

Typical Applications

• Office • Education • Healthcare • Hospitality • Retail

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

Interactive Menu

Top Product Features

- Nominal 4" linear aperture
- Available in 4' and 8' lengths for individual or continuous runs
- Seamless illumination with continuous roll lens
- Seamless Batwing or Asymmetric lens option available
- Perceive Technology: 5 differentiated lens aesthetics - PARAmid, Prism, Waves, Ripple and Honeycomb
- Integration with 6 common architectural ceiling types
- Multiple lumen packages
- 3000K, 3500K and 4000K CCT at 80+ or 90+ CRI
- Available with BioUp and VividTune tunable white technologies
- Integrated sensor systems - occupancy, daylight and IoT connectivity

Dimensions

4.506"
[114.45 mm]

3.3" [83.82 mm]
4.0" [101.6 mm]
4.7" [119.38 mm]
5.0" [127 mm]

T-Grid Install

4.625"
[117.47 mm]

3.3" [83.82 mm]
4.0" [101.6 mm]
4.25" [107.95 mm]

Gypsum Install
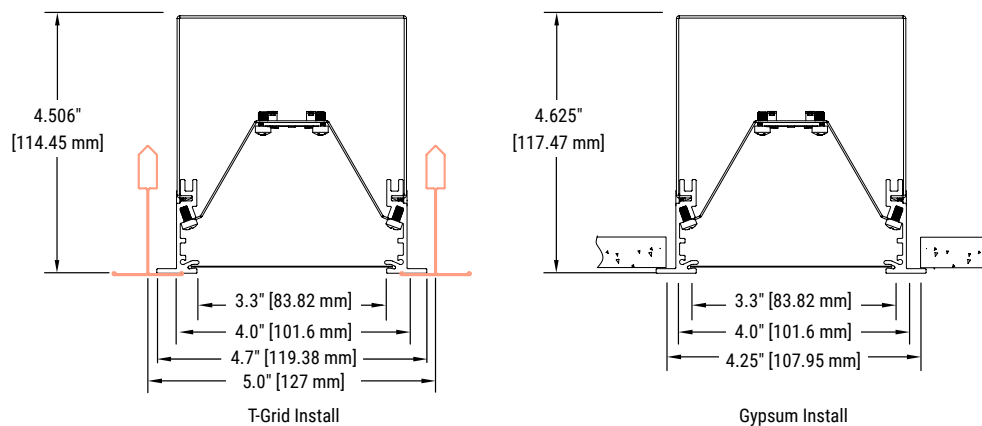
Order Information

Icon Key: Ø Consult factory for availability

SAMPLE ORDER NUMBER: **SQ4R-F-100D835-1D-UNV-STD-W-T1-16**

Domestic Preferences	Series	Shielding	Lumen Package (Lms/ft)	CRI/CCT	Circuiting	Emergency
[Blank]=Standard **BAA**=Buy American Act	**SQ4R**= SQ 4" Linear Recessed, Direct	**F**=Frosted Continuous Roll Lens **FB**= Batwing Frosted Continuous Roll Lens **FA**= Asymmetric Frosted Continuous Roll Lens **PC3**=Perceive PARAmid **PP3**=Perceive Prism **PW1**=Perceive Waves **PR1**=Perceive Ripple **PH1**=Perceive Hex	**050D**=500 Lumens/ft Down **075D**=750 Lumens/ft Down **100D**=1000 Lumens/ft Down **125D**=1250 Lumens/ft Down **____D**=Specify **	**830**=3000K, 80CRI **835**=3500K, 80CRI **840**=4000K, 80CRI **927**=2700K, 90CRI **930**=3000K, 90CRI **935**=3500K, 90CRI **940**=4000K, 90CRI **93050**=White Tuning 3000K-5000K **92765**=White Tuning 2700K-6500K **B35**= 3500K Static BioUp **B40**= 4000K Static BioUp **B50**= 5000K Static BioUp **B2750**= 2700K-5000K Dynamic BioUp	**1**=Single Circuit **S**=Secondary Circuit	**D**=None **E**=Emergency Circuit **BSL6**=Bodine 6-watt, 120V-277V Emergency Battery Pack, BSL6LST **EPC**=LVS Controls EPC UL924 Bypass Relay Device
Notes 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**	**Notes** All Continua SQ4 shielding lens options provide seamless illumination with continuous roll lenses up to 100 ft. Seamless illumination with continuous roll lens	**Notes** Custom lumen output available.Down (Direct): Min = 200 Lms/ft Max = 1900 Lms/ft Example: 135D = 1350 Lms/ft Down **Consult factory to specify custom lumen package Not all lumen packages are available for every configuration. See Driver Availability tables for more details. Refer to Driver Availability table on page 6 for BioUp light level availability.	**Notes** White Tuning is 90CRI standard. Tunable White options to be used with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. Not compatible with other control or sensor options 2700K may require additional leadtime, please consult factory. BioUp Static to be used with STD driver. BioUp white tuning provides orrelated color temperatures (CCT) between 2700K (warm) to 5000K (cool). Must be used with W2A or W2D driver. BioUp technology CRI ranges from > 80 CRI to 96 CRI and is correlated to CCT.	**Notes**	**Notes** Emergency and Secondary circuit section wiring are configured per unit (4ft, 8ft). Emergency circuit option operates entire portion of a specified unit. EPC option used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). Battery operates entire portion of 4ft fixtures and 4ft sections of 8ft. Fixture Non-IC-Rated for internal battery and lumen output ≥1000 Lms/ft.

Voltage	Driver/Dimming	Senor Options	Options	Finish	Mounting	Run Length
UNV=Univeral (120V-277V) **347**=347V	**STD**=Standard 0-10V (1%-100%) **5LT**=Fifth Light DALI (1%-100%) **LH**=Lutron HiLume 1% EcoSystems (LDE1) **W2A**=2-Channel 0-10V (VividTune and Dynamic BioUp Only) **W2D**=2-Channel DALI (Dynamic BioUp Only)	**[Blank]**=No Sensor **WLS (formerly WAB)**=WaveLinx LITE Wireless Sensor, Occupancy w/ photocell, Independent & Networked [B] **WPS (formerly WAA)**=WaveLinx PRO Wireless Sensor, Occupancy w/ photocell, Networked [A] **WPST**=WaveLinx PRO Tilemount Sensor, Occupancy w/ photocell, Networked **WLST**=WaveLinx LITE Tilemount Sensor, Occupancy w/ photocell, Independent & Networked	**CP**=Chicago Plenum	**W**=White	**T1**=15/16" T-Grid, 9/16" T-Grid **T2**= 9/16" Slot T-Grid, 9/16" Tegular T-Grid, 9/16" Interlude T-Grid **FG**=Flanged (Gypsum Board)	**4**=4 ft **8**=8 ft **XX**=Specify Run Length
Notes Integral 347V driver with STD 0-10V option only.	**Notes** See Driver Availability tables for more details Use standard 0-10V (STD) for Static BioUP (B35 | B40 | B50). 2-Channel 0-10V (W2A) available with VividTune (V) and Dynamic BioUp (B2750) only. 2-Channel DALI (W2D) available with Dynamic BioUp (B2750) only	**Notes** WaveLinx sensors available with STD driver and W2A drivers. Standard configurations available with single circuit and operate intensity/brightness only. For W2A driver, CCT adjustment controlled elsewhere--consult factory for alternatives. Integrated sensor options available in individual fixtures and runs up to 16ft. Tile-mount required for sensor options with runs over 16ft. Integrated Sensors combined with Emergency Circuit require UL924 Bypass Relay per emergency fixture. Integrated sensor 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** Meets CCEA requirements CP not available with tilemount sensors	**Notes**	**Notes** Please refer to ceiling interface diagrams for additional detail and dimensions.	**Notes** See 'Standard Row Configurations' table on Page 6 for continuous row length breakdowns.

Product Specifications

Construction

- Formed housing with precision cut housing trim extruded from 6063 aluminum.
- Laser-cut formed cold rolled steel endcaps
- Die-formed 22 gauge cold rolled steel pre-paint white reflector
- Driver accessible from below

Lengths

- 4 ft and 8 ft fully illuminated sections for individual and continuous runs
- See table on page 6 for continuous row length breakdowns

Finish

- Electrostatically applied polyester powder coat paint

Mounting

- Recessed lay-in for T-grid installation or direct into gypsum with ½" flange
- Fixtures can be joined for straight continuous runs using rigid alignment features

Shielding

- **F:** Frosted – Flush, high diffusion pixilation-free lens
- **FB:** Frosted batwing continuous flexible roll lens creates seamless illumination along entire row length. Single piece roll lens up to 100 ft.
- **FA:** Frosted Asymmetric continuous flexible roll lens creates seamless illumination along entire row length. Single piece roll lens up to 100 ft.
- **PC3, PP3,PW1,PR1,PH1**: Proprietary Perceive™ optical system enables dynamic visual depth on a flat surface while providing glare-reducing performance with comfortable, high-quality illumination. Perceive continuous flexible roll lens creates seamless illumination along entire row length. Single piece roll lens up to 100 ft

Light Engine

- LED's are available in 2700K, 3000K, 3500K, 4000K
- CRI options of either ≥80CRI or ≥90CRI
- VividTune tunable white and BioUp light engines available.
- Lumen output will be affected - please refer to the lumen adjustment factor tables
- TM21 life at 60,000 hours up to L94 and calculated L70 exceeds 400,000 hrs
- Drivers available in 120-277V and 347V

Integrated Controls

- 0-10V dimming to 1% standard
- WaveLinx wireless sensor compatible for standalone, controlled, connected, and IoT capability
- DALI 2.0 and Lutron available

Emergency Options

- Default emergency circuit section (E) is 4 ft. in length and located at the beginning of the fixture unless designated elsewhere
- Optional 120-277V emergency battery provided internal to fixture with pre-wired external test switch
- 90-minute backup period for code compliance
- Estimated lumen output = battery wattage x min efficacy - see performance table (e.g. 100 lm/W x 6W = 600 lumens)
- UL 924 emergency/generator transfer options available

Weight

- 2.7 lbs. per foot

Compliance

- cULus listed for damp locations
- Meets NYC requirements
- IC Rated for insulation contact (except where noted)
- Tested to IESNA LM-79 and LM-80
- Stated life per TM21 standards
- Can be used for State of California Title 24 high efficacy luminaire
- Meets NEMA 77, California Title 24, and IEEE1789 low risk or less than 5% modulation depth at all frequency below 90Hz
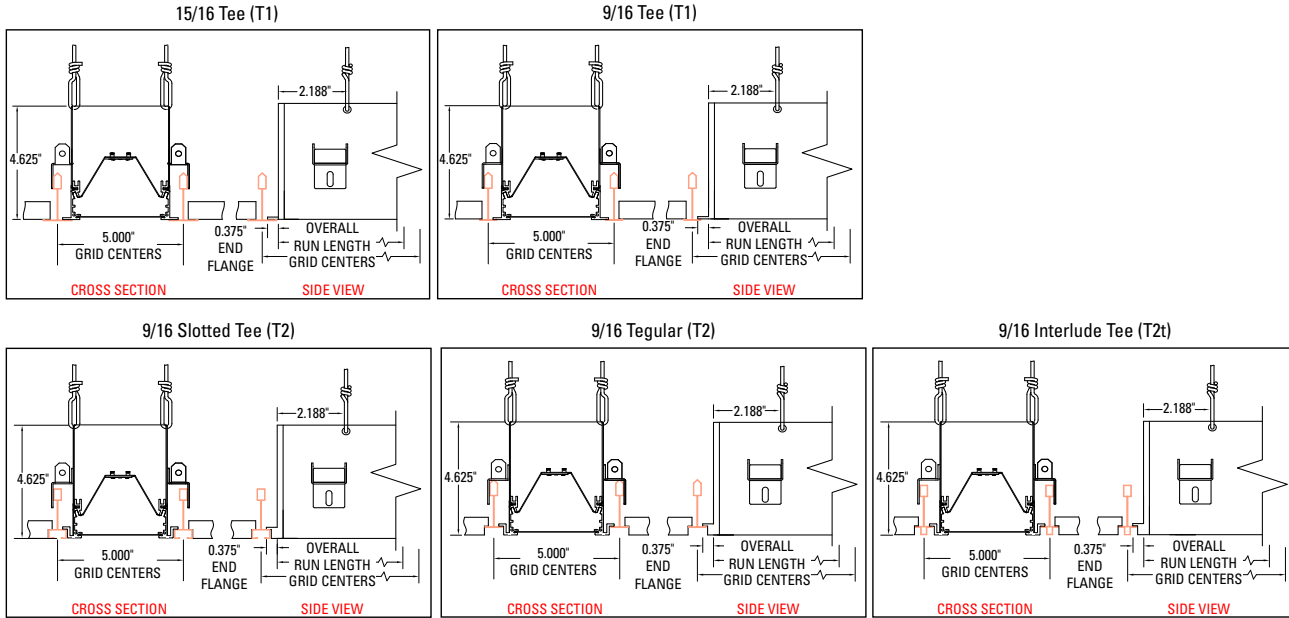
Warranty

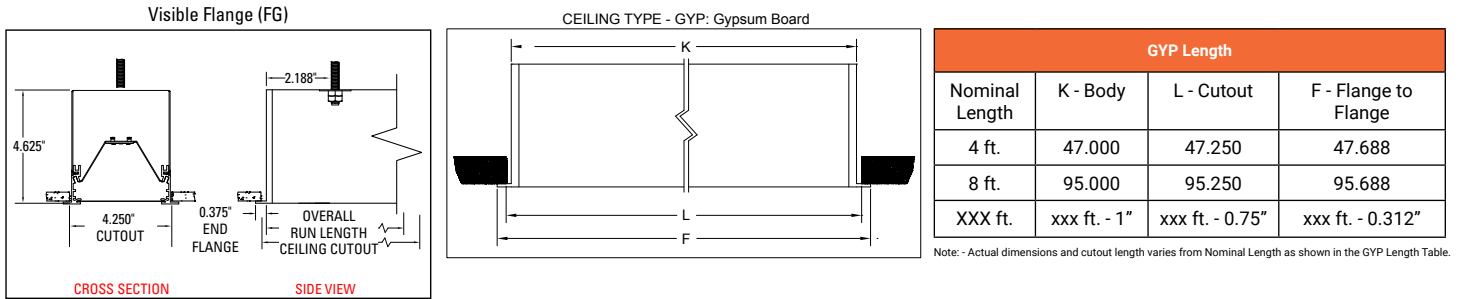- Five year limited warranty standard. Optional ten year limited warranty available

Ceiling Type

Extruded Trim Flange Details - Refer to submittal drawings for detailed flange information - for additional options consult factory.
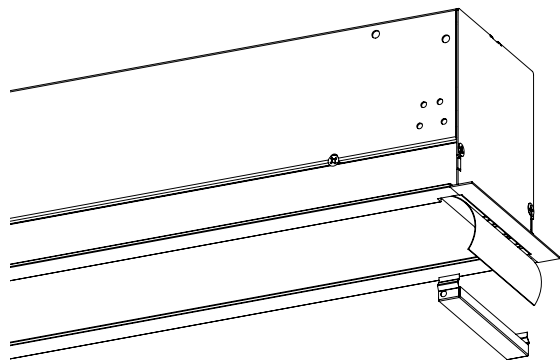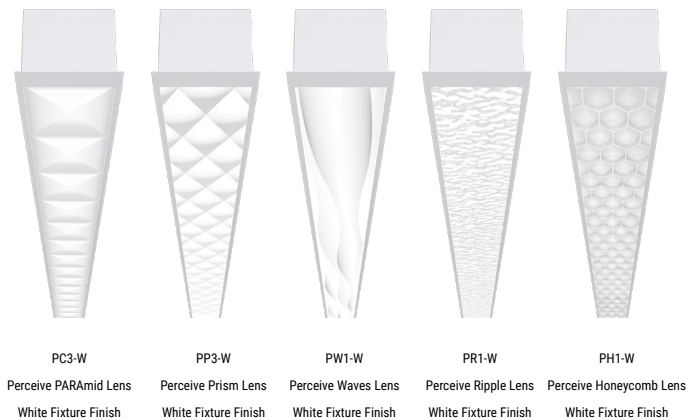
Grid Ceiling Systems

15/16 Tee (T1)

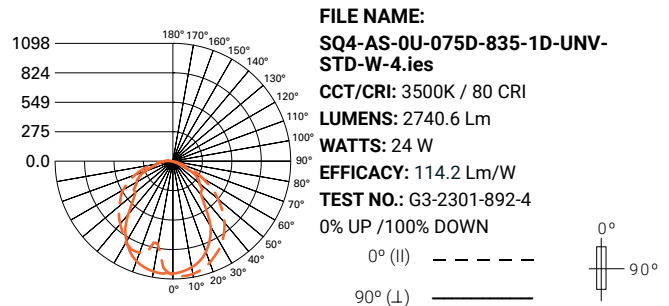4.625"
2.188"
5.000" GRID CENTERS
0.375" END FLANGE
OVERALL RUN LENGTH GRID CENTERS
CROSS SECTION
SIDE VIEW

9/16 Tee (T1)

4.625"
2.188"
5.000" GRID CENTERS
0.375" END FLANGE
OVERALL RUN LENGTH GRID CENTERS
CROSS SECTION
SIDE VIEW

9/16 Slotted Tee (T2)

4.625"
2.188"
5.000" GRID CENTERS
0.375" END FLANGE
OVERALL RUN LENGTH GRID CENTERS
CROSS SECTION
SIDE VIEW

9/16 Tegular (T2)

4.625"
2.188"
5.000" GRID CENTERS
0.375" END FLANGE
OVERALL RUN LENGTH GRID CENTERS
CROSS SECTION
SIDE VIEW

9/16 Interlude Tee (T2t)

4.625"
2.188"
5.000" GRID CENTERS
0.375" END FLANGE
OVERALL RUN LENGTH GRID CENTERS
CROSS SECTION
SIDE VIEW

Drywall Ceiling

Visible Flange (FG)

4.625"
2.188"
4.250" CUTOUT
0.375" END FLANGE
OVERALL RUN LENGTH CEILING CUTOUT
CROSS SECTION
SIDE VIEW

CEILING TYPE - GYP: Gypsum Board

K
L
F

GYP Length			
Nominal Length	K - Body	L - Cutout	F - Flange to Flange
4 ft.	47.000	47.250	47.688
8 ft.	95.000	95.250	95.688
XXX ft.	xxx ft. - 1"	xxx ft. - 0.75"	xxx ft. - 0.312"

Note: - Actual dimensions and cutout length varies from Nominal Length as shown in the GYP Length Table.

Continuous Lens

(no breaks in lens up to 100 ft)

Perceive ™ Shielding Options

PC3-W	PP3-W	PW1-W	PR1-W	PH1-W
Perceive PARAmid Lens	Perceive Prism Lens	Perceive Waves Lens	Perceive Ripple Lens	Perceive Honeycomb Lens
White Fixture Finish	White Fixture Finish	White Fixture Finish	White Fixture Finish	White Fixture Finish

Photometric Data - Static White LED Technology

FILE NAME:
SQ4R-F-075D-835-1-UNV-STD-W-4.ies
CCT: 3500K / 80 CRI
LUMENS: 2983.2 Lm
WATTS: 26.8 W
EFFICACY: 111.3 Lm/W
TEST NO.: P686068
0% UP /100% DOWN

0° (∥) – – – –
90° (⊥) ———

FILE NAME:
SQ4R-PP3-075D-835-1-UNV-STD-W-4.ies
CCT/CRI: 3500K / 80 CRI
LUMENS: 2922.9 Lm
WATTS: 26.8 W
EFFICACY: 109.1Lm/W
TEST NO.: P688543
0% UP /100% DOWN

0° (∥) – – – –
90° (⊥) ———

FILE NAME:
SQ4-BB-0U-075D-835-1D-UNV-STD-W-4.ies
CCT/CRI: 3500K / 80 CRI
LUMENS: 1870.3 Lm
WATTS: 23.9 W
EFFICACY: 78.3 Lm/W
TEST NO.: G3-2301-892-1
0% UP /100% DOWN

0° (∥) – – – –
90° (⊥) ———

FILE NAME:
SQ4-BB-0U-075D-835-1D-UNV-STD-W-4.ies
CCT/CRI: 3500K / 80 CRI
LUMENS: 1605 Lm
WATTS: 23.9 W
EFFICACY: 67.2 Lm/W
TEST NO.: G3-2301-892-2
0% UP /100% DOWN

0° (∥) – – – –
90° (⊥) ———

FILE NAME:
SQ4-BA-0U-075D-835-1D-UNV-STD-W-4.ies
CCT/CRI: 3500K / 80 CRI
LUMENS: 2405.9 Lm
WATTS: 24 W
EFFICACY: 100.2 Lm/W
TEST NO.: G3-2301-892-3
0% UP /100% DOWN

0° (∥) – – – –
90° (⊥) ———

FILE NAME:
SQ4-AS-0U-075D-835-1D-UNV-STD-W-4.ies
CCT/CRI: 3500K / 80 CRI
LUMENS: 2740.6 Lm
WATTS: 24 W
EFFICACY: 114.2 Lm/W
TEST NO.: G3-2301-892-4
0% UP /100% DOWN

0° (∥) – – – –
90° (⊥) ———

Note: Refer to IES files for more product data.

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Photometric Data

Lumen Maintenance

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours) [1]	Theoretical L70 (Hours) [2]
25°C	>84%	121,000

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.
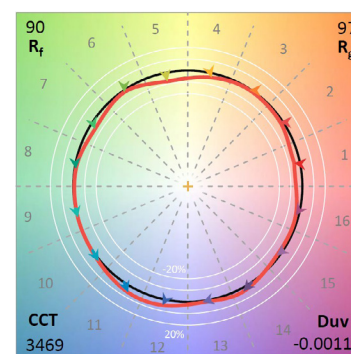
Color Data (3500K)

		80CRI	90CRI
TM-30-15	R_f	84	89.7
	R_g	97.2	97.2
CRI/CIE	R_a	83.4	94.3
	R_9	10.9	61.7

80CRI

R_f 84 | R_g 97 | CCT 3469 | Duv 0.0009

90CRI

R_f 90 | R_g 97 | CCT 3469 | Duv -0.0011
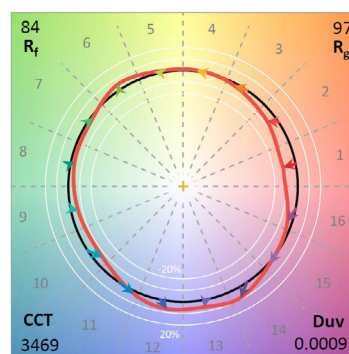
Run Configurations

Standard Length	4ft	8ft	12ft	16ft	20ft	24ft	28ft	32ft	36ft	40ft	44ft	48ft	52ft	56ft	60ft	64ft	68ft	72ft	76ft	80ft	84ft	88ft	92ft	96ft
4ft	1		1		1		1		1		1		1		1		1		1		1		1	
8ft		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12

Driver Availability

Lumen Package	'STD' 0-10V, UNV Qty of Drivers		'5LT' DALI Qty of Drivers		'LH' Lutron Qty of Drivers		'STD' 0-10V, 347V Qty of Drivers		'W2A' 2Ch WT 0-10V, UNV Qty of Drivers	
	4'	8'	4'	8'	4'	8'	4'	8'	4'	8'
050D	1	1	1	1	1	1	1	1	1	1
075D	1	1	1	1	1	1	1	1	1	2
100D	1	1	1	1	1	1	1	1	1	2
125D	1	2	1	2	1	2	1	2	1	2

Lumen Package	BioUp 0-10V STD & W2A		BioUp DALI W2D	
	4'	8'	4'	8'
050D	1	1	1	1
075D	1	2	1	2
100D	1	2	1	2
125D	1	2	N/A	N/A

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Energy and Performance Data - Frosted Lens and Perceive™ Lenses

Continua SQ4R Performance (3500K, 80 CRI)						
Shielding	Lumen Package	Lumens/ft	W/ft	Lm/W	UGR	Max Luminance
F	050D	507	4.7	107.4	22.8	6481
	075D	746	6.7	111.3	24.1	9528
	100D	988	9.3	106.8	25.1	12618
	125D	1248	12.4	100.9	25.9	15947
PC3	050D	502	4.7	106.2	22.2	6591
	075D	738	6.7	110.1	23.5	9690
	100D	977	9.3	105.6	24.5	12832
	125D	1235	12.4	99.8	25.3	16218
PH1	050D	462	4.7	97.8	23.4	6154
	075D	679	6.7	101.4	24.8	9047
	100D	899	9.3	97.2	25.7	11983
	125D	1137	12.4	91.9	26.6	15144
PP3	050D	497	4.7	105.2	23	6601
	075D	731	6.7	109.1	24.3	9702
	100D	968	9.3	104.6	25.3	12850
	125D	1223	12.4	98.8	26.1	16241
PR1	050D	492	4.7	104.0	21.5	6844
	075D	723	6.7	107.9	22.8	10063
	100D	957	9.3	103.5	23.8	13326
	125D	1210	12.4	97.8	24.6	16842
PW1	050D	475	4.7	100.6	22	6780
	075D	699	6.7	104.3	23.4	9968
	100D	925	9.3	100.0	24.3	13201
	125D	1169	12.4	94.5	25.1	16685

PC3-W

PP3-W

PW1-W

PR1-W

PH1-W

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, 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, 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

Lumen Adjustment Factors (non-BioUp)

CCT	3000K		3500K		4000K	
CRI	80	90	80	90	80	90
Lumen Multiplier	0.977	1.000	1.028	0.812	0.859	0.855
Melanopic Ratio	0.483	0.558	0.654	0.584	0.673	0.744

Lumen Adjustment Factors (BioUp Static)

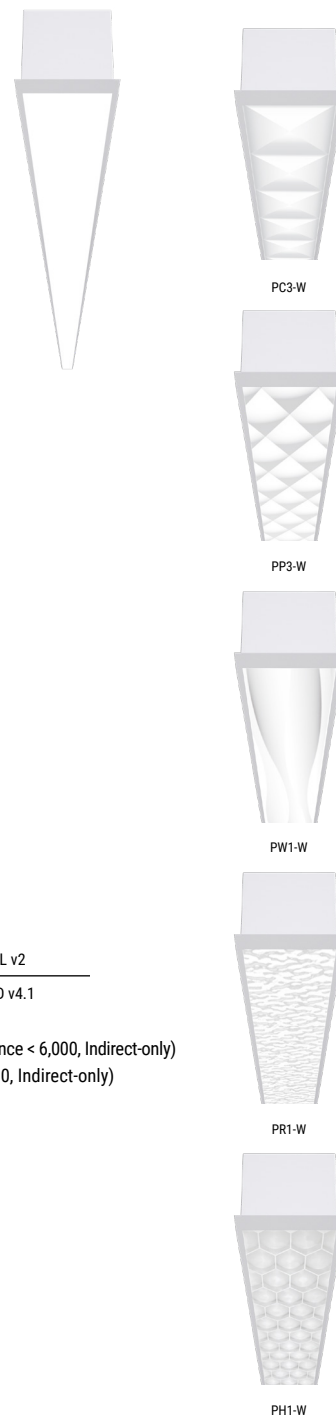| CCT	3000K		3500K		4000K		5000K	
CRI	80+	90+	80+	90+	80+	90+	80+	90+
Lumen Multiplier	0.956	0.803	1.000	0.852	0.988	0.888	-	-
BioUp Static	-		0.969		0.955		0.934	

Example Calculation:
025U-075D / 3500K / 80 CRI
Lumen Output selected = 985 lms/ft

3500K / 90 CRI Desired
Lumen Adjustment Factor = 0.852

Adjusted Lumen Output = 985 lms/ft x 0.852 = 839 lms/ft

Control Solutions

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

WaveLinx
Digital Lighting Control Solutions

The SQ4R with WaveLinx offers no-hassle lighting control with multiple luminaire level control solutions.
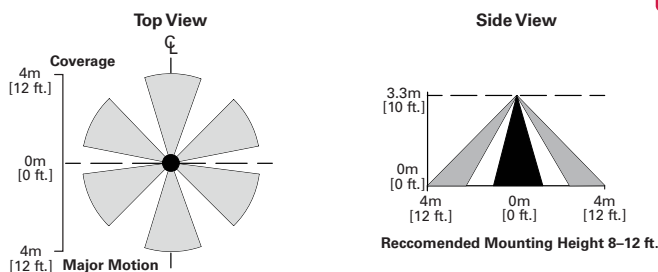
WaveLinx PRO is a wireless lighting control solution, for connected spaces, that significantly reduces a building's energy consumption. From a single floor to an entire campus, WaveLinx PRO connects more than lighting assets; it shares aggregated sensor data with the WaveLinx CORE platform and other 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

Coverage
4m [12 ft.]
0m [0 ft.]
4m [12 ft.] Major Motion

Side View

3.3m [10 ft.]
0m [0 ft.]
4m [12 ft.] — 0m [0 ft.] — 4m [12 ft.]

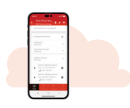Reccomended Mounting Height 8–12 ft.

SQ4R Recessed with Integrated Sensor - Endcap

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

devices ➤ areas ➤ floors ➤ buildings ➤

WaveLinx expands from a single standalone device up to Enterprise with 32,500 devices
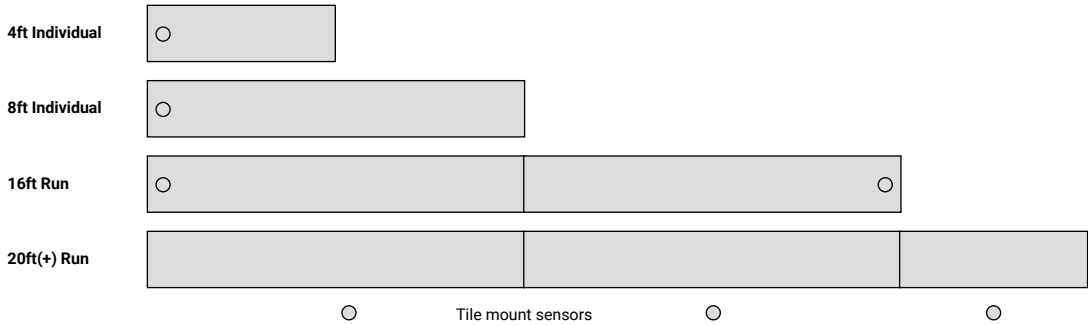
Note: WaveLinx LITE devices can be upgraded to WaveLinx PRO via an OTA firmware update. The OTA and system configuration can only be performed by Cooper Lighting Solutions specialists. WaveLinx Area Controller(s) would also need to be added to complete the solution.

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Integrated Sensor Details and Placement

Sensor Type	Wireless	Sensor Integration	Ordering Code
WaveLinx	Yes	Integral to Fixture (End Cap) or Tile Mount	WPS/WLS WPST/WLST

○ Standard Sensor with Luminaire Control

INTEGRAL SENSOR LAYOUT EXAMPLES

4ft Individual

8ft Individual

16ft Run

20ft(+) Run

Tile mount sensors

VividTune™
color tuning solutions

Black Body Locus   **ANSI C78.377-2017 Quadrangles**

— 3000K - 5000K
— 2700K - 6500K

SQ4R with VividTune Tunable White

VividTune tunable white luminaires from Cooper Lighting Solutions deliver high-quality light in a broad range of continuously variable color temperatures and intensities. Create a dynamic environment by adjusting the ambient light warmer or cooler to influence mood, support the task at hand, or create a dramatic ambience. The ability to control correlated color temperature and intensity separately using simple controls is the next evolution of LED lighting for the commercial, educational, healthcare and hospitality space. The unparalleled flexibility and number of available lighting environments enable users to find the right light with tunable white.
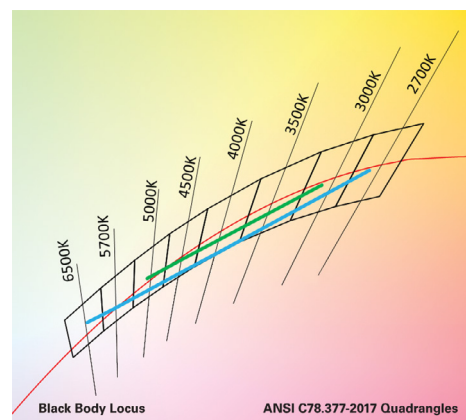
CCT Multiplier	90CRI 3000K-5000K	90CRI 2700K-6500K
2700K	-	0.954
3000K	0.981	0.974
3500K	1.000	0.997
4000K	1.011	1.016
4500K	1.018	1.032
5000K	1.025	1.044
5700K	-	1.058
6500K	-	1.068
6500K	-	-

Example Calculation:

025U-075D / 3000K-5000K tuned to 3500K
Lumen Output selectred = 1202 lms/ft

90CRI 3000K-5000K tuned to 4000K
Lumen Adjustment Factor = 1.011

Adjusted Lumen Output = 1130 lms/ft x 1.011 = 1215 lms/ft

Controlling VividTune Tunable White

VividTune luminaires make tunable white more accessible by using simple and familiar controls. From wall dimmers to wireless controls, VividTune tunable white luminaires are compatible with industry standard 0-10V dimming controls. A single 0-10V dimming input is used to control intensity (brightness) while a second 0-10V dimming input is used to adjust CCT. For suggested control configurations, go to www.cooperlighting.com for tunable white application guides.

warm 2700K   CCT 0-10V   **cool** 6500K

10%   Intensity 0-10V   100%

COOPER
Lighting Solutions
a **signify** business

Proven Research. Industry Recognized.

BioUp
Melanopic Lighting

See better   **Feel better**   **Function better**

See **BioUp brochure** for more details

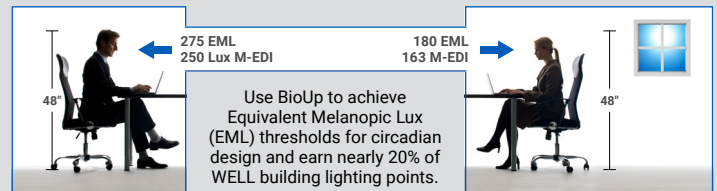### INTERNATIONAL WELL BUILDING INSTITUTE™
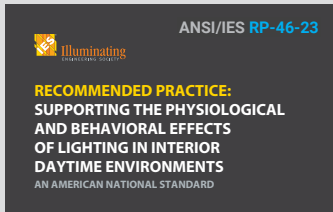
ANSI/IES RP-46-23

RECOMMENDED PRACTICE: SUPPORTING THE PHYSIOLOGICAL AND BEHAVIORAL EFFECTS OF LIGHTING IN INTERIOR DAYTIME ENVIRONMENTS
AN AMERICAN NATIONAL STANDARD

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

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

275 EML   180 EML
250 Lux M-EDI   163 M-EDI

48"   48"

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

Use BioUp to achieve Equivalent Melanopic Lux (EML) thresholds for circadian design and earn nearly 20% of WELL building lighting points.
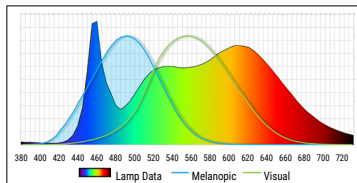

MDER, M-EDI and **EML** are key metrics used to quantify non-visual performance of indoor lighting systems.
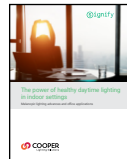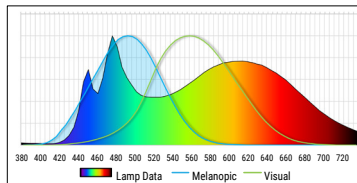
See **BioUp white paper** for more details

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

Standard 4000K LED
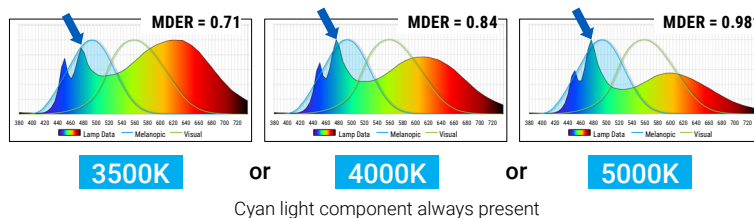MDER = .62

BioUp 4000K LED
MDER = .82

Lamp Data — Melanopic — Visual

30% boost Biological impact
compared to traditional LED sources

CCT	LED MDER ~83 CRI	BioUp Static		BioUp Dynamic	
		MDER	CRI	MDER	CRI
2700K	0.44	–	–	0.43	95
3000K	0.49	–	–	0.54	94
3500K	0.56	0.71	90	0.71	90
4000K	0.64	0.84	87	0.82	87
5000K	0.77	0.98	84	0.98	84

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.

MDER = 0.71   MDER = 0.84   MDER = 0.98

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

Cyan light component always present

Dimming Control   0%   Intensity   100%

› no CCT control needed

Dynamic - (Tunable)

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

Evening   **Daytime**

MDER = 0.43   MDER = 0.98
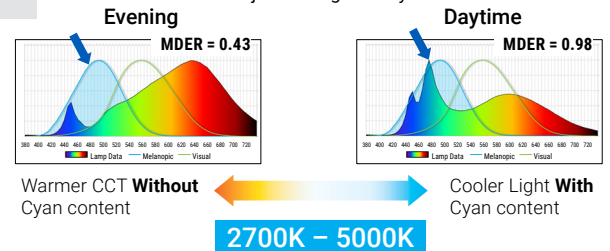
Warmer CCT **Without** Cyan content   Cooler Light **With** Cyan content

2700K – 5000K

CCT Control   warm 2700K   CCT   cool 5000K

Dimming Control   0%   Intensity   100%

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

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