Project		Catalog #		Type	
Prepared by		**Notes**		**Date**	
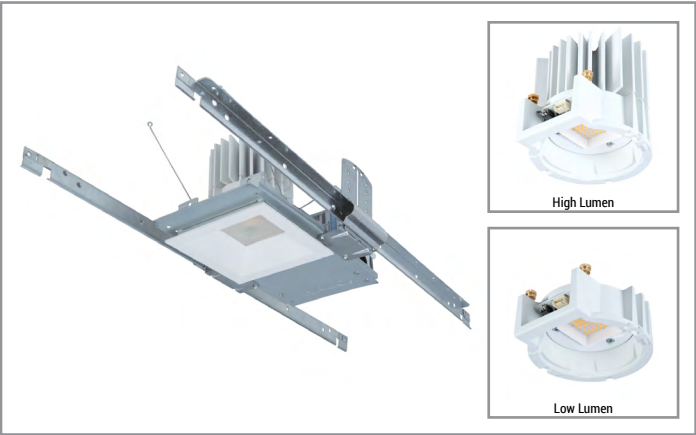
HALO Commercial
PRS4 | SM4 | 41S/44S

4-inch LED square aperture
new construction/remodel
downlight and wall wash

Typical Applications

Office • Healthcare • Hospitality • Institutional • Mixed-Use/Retail

High Lumen

Low Lumen

🚀 Interactive Menu

- Order Information page 2
- Product Specifications page 4
- Photometric Data page 5
- Energy & Performance Data page 10
- Connected Systems page 12
- Product Warranty

Product Certification

ENERGY STAR

Efficiency Standards T24 Can be used to comply with California Title 24 Non-Residential

wet location

FC

RoHS COMPLIANT

UL CERTIFIED

Product Features

seleCCTable colors

selectable lumens

Showerlight

Control Compatibility

WaveLinx LITE

WaveLinx PRO

Top Product Features

- New construction/remodel series; True square aperture design with refined corner detail
- Selectable lumens: 1,000/1,500/2,000 (low) or 3,000/4,000 (high)
- Narrow, Medium and Wide distributions; Wall wash with linear spread lens
- Selectable color temperatures: 3000K, 3500K and 4000K CCT; 80 CRI
- Universal voltage 120V-277V; Standard 0-10V driver dims to 1%

Dimensional and Mounting Details

4", LOW LUMEN MODULE (1000 - 1500 - 2000 LUMEN)

8.2"
[209mm]

11.7"
[296mm]

4", HIGH LUMEN MODULE (3000 - 4000 LUMEN)

8.2"
[209mm]

11.7"
[296mm]
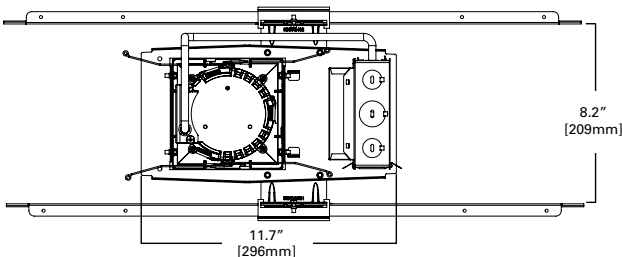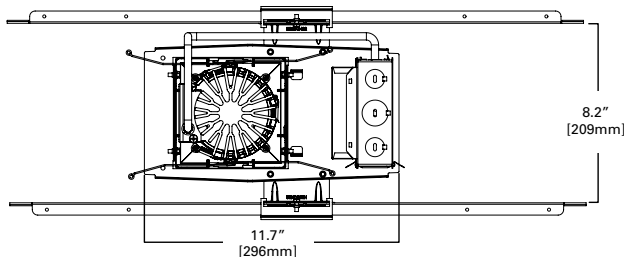
🚀 **additional product diagrams**

COOPER
Lighting Solutions

Order Information

SAMPLE NUMBER: PRS4FS34D010REM7 - SM4348FS - 41SMDH

A complete luminaire consists of a mounting frame, LED module, and reflector (ordered separately)

Ordering Information, 120-277VAC, 0-10V analog dimming

Housing Frame	Lumens	Input / Control	Factory Installed Options
PRS4 = 4" square new construction and remodeler housing	**Field Selectable** **FS12 =** field selectable 1000, 1500 and 2000 lumens (nominal), use with SM4128FS LED module **FS34 =** field selectable 3000 and 4000 lumens (nominal), use with SM4348FS LED module **Fixed, Factory Set** **10 =** 1000 lumens (nominal), use with SM4128FS LED module (Type IC rated) **15 =** 1500 lumens (nominal), use with SM4128FS LED module (Type IC rated) **30 =** 3000 lumens (nominal), use with SM4348FS LED module	**D010=**120-277VAC, 50/60Hz, 0-10V analog 1% dimming	**REM7=**7 watt emergency module with remote test / indicator light, Use with D010 only **REM14=**14 watt emergency module with remote test / indicator light, use with D010 only **BOD7ST =** 7.5 watt Bodine self-test diagnostic emergency module with remote test / indicator light, use with D010 only **WTA=**Factory WaveLinx PRO Tilemount Sensor Kit [3] **WTK =** Factory WaveLinx LITE Tilemount Sensor Kit [4] **WPN =** WaveLinx PRO Wireless Node without sensor [5] **WLN =** WaveLinx LITE Wireless Node without Sensor [6]
Notes	**Notes**	**Notes**	**Notes**
			(3) WTA = WaveLinx PRO tile mount sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with D010 only. (Refer to WaveLinx PRO system specifications.) (4) WTK = WaveLinx LITE tile mount sensor kit for daylight dimming, PIR motion sensing, use with D010 only. (Refer to WaveLinx LITE system specifications.) (5) WPN = WaveLinx PRO wireless node provides luminaire-level control with scene and zone configuration without an integrated sensor; Connects wirelessly with daylight dimming sensor and PIR motion sensor if desired. Use with 0-10V driver only. (Refer to WaveLinx PRO system specifications.) (6) WLN = WaveLinx LITE wireless node provides luminaire-level control with scene and zone configuration without an integrated sensor; Connects wirelessly with daylight dimming sensor and PIR motion sensor if desired. Use with 0-10V driver only. Not compatible with 347V or Chicago plenum. (Refer to WaveLinx LITE system specifications.)

Ordering Information, Distributed Low Voltage Power - for use with DLVP system only

Housing Frame	Lumens	Input / Control	Options
PRS4 = 4" square new construction and remodeler housing	**Fixed, Factory Set** **10 =** 1000 lumens (nominal), use with SM4128FS LED module(Type IC rated) **15 =** 1500 lumens (nominal), use with SM4128FS LED module (Type IC rated) **20 =** 2000 lumens (nominal), use with SM4128FS LED module **30 =** 3000 lumens (nominal), use with SM4348FS LED module **40 =** 4000 lumens (nominal), use with SM4348FS LED module	**DLV** = Distributed Low Voltage dimming driver 1%-100%, 1000-4000 lumens only. For use with DLVP system only, refer to DLVP specifications for details.	**REMV7 =** 7W emergency module with remote test / indicator light, use with DLV only **REMV14 =** 14W emergency module with remote test / indicator light, use with DLV only
Notes	**Notes**	**Notes**	**Notes**

Accessories

Accessories
HB128APK=L channel hanger bar, 26", pair (replacement) **RMB22=**Adjustable wood joist mounting bars, pair, extend to 22" long **H347=**347 to 120V step down transformer, 75VA **H347200=**347 to 120V step down transformer, 200VA **WTA =** Field WaveLinx PRO Tilemount Sensor Kit [3] **WTK =** Field WaveLinx LITE Tilemount Sensor Kit [4]
Notes
(3) WTA = WaveLinx PRO tile mount sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with D010 only. (Refer to WaveLinx PRO system specifications.) (4) WTK = WaveLinx LITE tile mount sensor kit for daylight dimming, PIR motion sensing, use with D010 only. (Refer to WaveLinx LITE system specifications.)

COOPER
Lighting Solutions

Order Information

LED Module	Lumens	CRI/CCT
SM4 = 4" LED module	**12=**Field selectable 1000, 1500 and 2000 lumens (nominal), preset for 2000 lumens, use with PRS4FS12*, PRS410*, PRS415*, PRS420* housings **34=**Field selectable 3000 and 4000 lumens (nominal), preset for 4000 lumens, use with PRS4FS34*, PRS430*, PRS440* housings	**8FS =**80 CRI (minimum), field selectable 3000, 3500 and 4000 CCT, preset for 3500K
Notes	**Notes**	**Notes**

Reflector - Deep	Distribution[2]	Finish	Flange	Accessories
41S = 4" square reflector, non-conductive polymer, use with SM4 modules only.	**ND =** narrow, TIR lens included (58° beam angle, 0.8 SC) **MD =** medium, TIR lens included (63° beam angle, 1.0 SC) **WD =** wide, TIR lens included (70° beam angle, 1.25 SC) **WW =** linear spread lens wall wash, insert included	<u>Vacuum Metallized</u> **C =** Specular clear **H =** Semi-specular clear (haze) <u>Painted</u> **MB =** Matte black **MW =** Matte white	**Blank =** Vacuum Metallized flange standard on C, H reflectors **Blank =** White flange on MW reflectors **Blank =** Black flange on MB reflectors **WF =** White flange option available with C, H, MB reflectors	**TIR4SND =** narrow distribution TIR lens for 4" reflectors[1] **TIR4SMD =** medium distribution TIR lens for 4" reflectors[1] **TIR4SWD =** wide distribution TIR lens for 4" reflectors[1] **S4DWW =** wall wash replacement insert for 4" wall wash reflector
Notes	**Notes**	**Notes**	**Notes**	**Notes**
	(2) Values are nominal for white reflectors, others may vary.			(1) TIR lenses for replacement - field interchangeable

Reflector - Shallow	Distribution[2]	Finish	Flange	Accessories
44S = 4" square shallow reflector, non-conductive polymer, use with SM4 modules only.	**ND =** narrow with TIR lens included (61° beam angle, 0.88 SC) **MD =** medium with TIR lens included (74° beam angle, 1.04 SC) **WD =** wide with TIR lens included (98° beam angle, 1.30 SC)	<u>Vacuum Metallized</u> **C =** Specular clear **H =** Semi-specular clear (haze) <u>Painted</u> **MB =** Matte black **MW =** Matte white	**Blank =** Vacuum Metallized flange standard on C, H reflectors **Blank =** White flange on MW reflectors **Blank =** Black flange on MB reflectors **WF =** White flange option available with C, H, MB reflectors	**TIR4SND =** narrow distribution TIR lens for 4" reflectors[1] **TIR4SMD =** medium distribution TIR lens for 4" reflectors[1] **TIR4SWD =** wide distribution TIR lens for 4" reflectors[1]
Notes	**Notes**	**Notes**	**Notes**	**Notes**
	(2) Values are nominal for white reflectors, others may vary.			(1) TIR lenses for replacement - field interchangeable

COOPER
Lighting Solutions

Product Specifications

Housing Frame
- Boat shaped galvanized steel plaster frame with adjustable plaster lip
- Accommodates 1/2" to 1-1/2" thick ceilings
- Installs in new construction or from below the finished ceiling (non-accessible) for remodeling
- Provided with four remodel clips to secure the frame when installing from below the ceiling

Universal Mounting Bracket
- Adjusts 2" vertically from above and below the ceiling
- Use with the included mounting bars or with 1/2" Electric Metallic Tube (EMT)
- Removable to facilitate remodeling installation from below the finished ceiling

Mounting Bars
- Captive pre-installed No Fuss™ mounting bars lock to T-grid with screwdriver or pliers
- Centering detents allow for consistent positioning of fixtures

LED Module
- Patented SeleCCTable™ technology allows the color temperature and lumen output to be selected in the field
- Selectable color temperatures in 3000K, 3500K and 4000K correlated color temperature (CCT)
- Selectable lumens: 1,000/1,500/2,000 (low lumens) or 3,000/4,000 (high lumens)
- Discrete (fixed) lumen output is also available to meet lighting power density code requirements
- Available in 80 color rendering index (CRI)
- Color accuracy within 3 SDCM provides color consistency and uniformity (refer to chromaticity information for details)
- Integral connector allows for quick connection to the housing flex
- Passive thermal management achieves 50,000 hours at 70% lumen maintenance (L70) in insulated ceilings (IC) and non-IC applications

Primary Optic
- Precision-molded square Total Internal Reflection (TIR) optics deliver highly efficient and uniform patterns
- Available in narrow, medium and wide distribution patterns and can be interchanged without tools

Reflector
- Self-flanged downlight reflectors are available in shallow and deep regression
- Reflectors are of non-conductive polymer construction and may be used to meet local code requirements for 'dead front'
- Wall wash reflector features a linear spread lens for alignment of vertical illumination
- Reflectors attach to LED module with three speed clamps
- Available in multiple painted or plated finishes

Reflector/Module Retention
- Reflector/module assembly is securely retained in the housing with two torsion springs

Driver
- Field-replaceable constant current driver provides low noise operation
- Universal 120-277VAC 50/60Hz input standard
- Continuous, 1% to 100% dimming with 0-10V analog control
- Optional low-voltage DC driver for use with Distributed Low Voltage Power (DLVP) system

- Distributed Low Voltage Power (DLVP) system combines power, lighting and controls with ease of installation (refer to DLVP Design Guide at www.cooperlighting.com for details)

Emergency Option
- Provides 90 minutes of standby lighting, meeting most life safety codes for egress lighting
- Available with remote charge indicator and test switch
- Available Self-Test (self-diagnostic) with remote charge indicator and test switch

Connected Lighting System Options
Two WaveLinx connected solutions to choose from. Refer to WaveLinx system specifications and application guides for details.

WaveLinx PRO Tilemount Sensor Kit
- WaveLinx PRO WTA tilemount sensor kit offers daylight dimming, PIR motion sensing, scene and zone configuration, automatic commissioning; and optional RLTS - Real Time Location Services available.

WaveLinx PRO Wireless Node
- WaveLinx PRO WPN wireless node provides luminaire-level control with scene and zone configuration without an integrated sensor; Connects wirelessly with daylight dimming sensor and PIR motion sensor if desired. Use with 0-10V driver only. **Note:** Not compatible with 347V or Chicago plenum.

WaveLinx LITE Tilemount Sensor Kit
- WaveLinx LITE WTK tilemount sensor kit offers daylight dimming and PIR motion sensing, scene and grouping configuration.

WaveLinx LITE Wireless Node
- WaveLinx LITE WLN wireless node provides luminaire level control with scene and zone configuration without an integrated sensor; Connects wirelessly with daylight dimming sensor and PIR motion sensor if desired. Use with 0-10V driver only. **Note:** Not compatible with 347V or Chicago plenum.

WaveLinx Tilemount Sensor Kits Application
- The WTA and WTK tilemount sensor kits include a control module mounted on the luminaire junction box via 1/2" knock-out, and a tilemount sensor on 54-inch whip; for ceiling installation by direct-mount spring clips or via mounting bracket in octagon ceiling boxes.
- The WTA and WTK tilemount sensor kits may be ordered as factory installed on the luminaire, or ordered separately as a field installed accessory kit.
- **Note: WaveLinx PRO devices are only compatible with the WaveLinx PRO system.**
- **Note: WaveLinx LITE devices are only compatible with the WaveLinx LITE system.**

Junction Box
- Galvanized steel junction box
- 20 in³ internal volume excluding voltage barrier
- 25 in³ internal total volume
- Voltage barrier for 0-10V dimming wires (occupies one 1/2" pry-out space)
- Listed for eight #12 AWG (four in, four out) 90°C conductors and feed-thru branch wiring
- Three 1/2" and two 3/4" trade size pry-outs available
- Three 4-port push wire nuts for mains voltage with 1-port for fixture connection

Compliance
- cULus Certified to UL 1598 / C22.2 No. 250.0, suitable for damp locations and wet locations in covered ceilings only
- IP20 - Above finished ceiling; IP64 - Below finished ceiling
- Non-Insulated ceiling (Non-IC) rated for the field-selectable 1,000, 1,500, 2,000, 3,000 and 4,000 lumen models (insulation must be kept 3" from top and sides)
- Fixed (non-selectable) factory set 1,000 and 1,500 lumen housing frames are insulated ceiling (IC) rated and suitable for direct contact with air permeable insulation* (IC models are also suitable for Non-IC installations)
- Airtight per ASTM-E283-04
- Suitable for use in clothes closets when installed in accordance with the NEC 410.16 spacing requirements
- EMI/RFI emissions FCC CFR Title 47 Part 15 Class A at 120/277V
- Contains no mercury or lead and RoHS compliant
- Photometric testing completed in accordance of IES LM-79-08
- Lumen maintenance projection in accordance of IES LM-80-08 and TM-21-11
- May be used to comply with State of California Title 24 non-residential code as a dimmable LED luminaire
- ENERGY STAR® certified, reference certified light fixtures database

  *Not for use in direct contact with spray foam insulation, consult NEMA LSD57-2013

Warranty
- Five year limited warranty, consult website for details. www.cooperlighting.com/legal
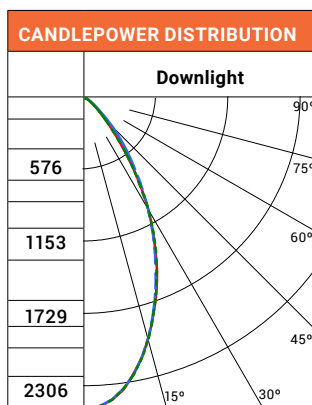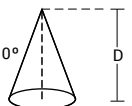
COOPER
Lighting Solutions

Photometric Data

DEEP REFLECTORS 41S SERIES

NARROW DISTRIBUTION - SPECULAR CLEAR FINISH, 2000 LUMEN MODEL, 80 CRI, 3500K

NARROW (58° BEAM*)	
Test Number	P241955
Housing	PRS4FS12D010
Module	SM4128FS
Reflector	41SNDC
Lumens	1818 Lm
Efficacy	90.9 Lm/W
SC	0.8
UGR	13.2

CANDLEPOWER DISTRIBUTION

Downlight

576
1153
1729
2306

CONE OF LIGHT

0°   D

MH	FC	L	W
5.5'	76.2	4.2	4.2
7'	47.1	5.4	5.4
8'	36	6.2	6.2
9'	28.5	7	7
10'	23.1	7.8	7.8
12'	16	9.4	9.4

CANDELA TABLE

Degrees Vertical	Candela
0	2306
5	2244
15	1824
25	1227
35	576
45	141
55	2
65	0
75	0
85	0
90	0

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0-30	1273	70
0-40	1654	91
0-60	1818	100
0-90	1818	100
90-180	0	0
0-180	1818	100

LUMINANCE
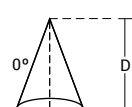
Average Candela Degrees	Average 0° Luminance
45	15296
55	280
65	0
75	0
85	0

MEDIUM DISTRIBUTION - SPECULAR CLEAR FINISH, 2000 LUMEN MODEL, 80 CRI, 3500K

MEDIUM (63° BEAM*)	
Test Number	P241970
Housing	PRS4FS12D010
Module	SM4128FS
Reflector	41SMDC
Lumens	2013 Lm
Efficacy	100.7 Lm/W
SC	0.82
UGR	13.0

CANDLEPOWER DISTRIBUTION

Downlight

634
1267
1901
2535

CONE OF LIGHT

0°   D
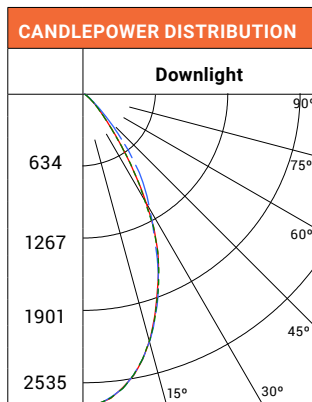
MH	FC	L	W
5.5'	83.8	4.4	4.4
7'	51.7	5.6	5.6
8'	39.6	6.4	6.4
9'	31.3	7.2	7.2
10'	25.3	8	8
12'	17.6	9.6	9.8

CANDELA TABLE

Degrees Vertical	Candela
0	2535
5	2483
15	2066
25	1417
35	559
45	137
55	4
65	0
75	0
85	0
90	0

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0-30	1445	71.8
0-40	1857	92.2
0-60	2012	99.9
0-90	2013	100
90-180	0	0
0-180	2013	100

LUMINANCE
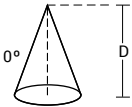
Average Candela Degrees	Average 0° Luminance
45	14830
55	574
65	0
75	0
85	0

Note: Refer to IES files for more product data.

COOPER Lighting Solutions

DEEP REFLECTORS 41S SERIES

WIDE DISTRIBUTION - SPECULAR CLEAR FINISH, 2000 LUMEN MODEL, 80 CRI, 3500K

WIDE (70° BEAM*)

Test Number	P252935
Housing	PRS4FS12D010
Module	SM4128FS
Reflector	41SWDC
Lumens	1913 Lm
Efficacy	95.7 Lm/W
SC	1.11
UGR	19.5

CANDLEPOWER DISTRIBUTION

Downlight
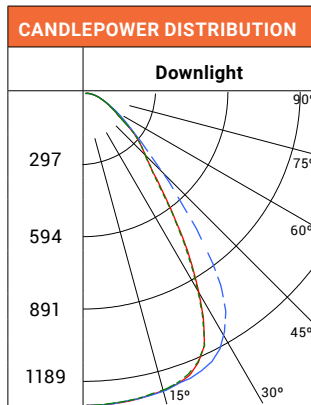
CONE OF LIGHT

MH	FC	L	W
5.5'	39.3	6	6
7'	24.3	7.8	7.6
8'	18.6	8.8	8.8
9'	14.7	10	10
10'	11.9	11	11
12'	8.3	13.2	13.2

CANDELA TABLE

Degrees Vertical	Candela
0	1189
5	1186
15	1168
25	1060
35	586
45	301
55	145
65	77
75	36
85	9
90	0

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0-30	936	48.9
0-40	1375	71.9
0-60	1785	93.3
0-90	1913	100
90-180	0	0
0-180	1913	100

LUMINANCE

Average Candela Degrees	Average 0° Luminance
45	32594
55	19337
65	13946
75	10706
85	7992

*Values are nominal for specular clear reflectors, others may vary.
SC = Spacing Criteria
UGR = Unified Glare Rating

Photometric Multipliers (Nominal lumen values)

1000 Lumen	1500 Lumen	2000 Lumen	3000 Lumen	4000 Lumen
0.47	0.62	1.00	1.27	1.83

Multipliers for relative lumen values with other series models.

CCT Multipliers – 80CRI

3000K	3500K	4000K
0.90	1.00	0.95

Multipliers for relative lumen values with other series color temperatures.

Color Finish Multipliers

Finish code	C	H	MB	MW
Finish	Specular Clear	Semi-Specular	Matte Black	Matte White
Narrow Multiplier	1.00	0.96	0.74	0.99
Medium Multiplier	1.00	0.95	0.71	0.97
Wide Multiplier	1.00	0.93	0.63	0.96

Multipliers for relative lumen values with other cone color finishes.

DEEP REFLECTORS 41S SERIES

WALL WASH DISTRIBUTION - SPECULAR CLEAR FINISH, 2000 LUMEN MODEL, 80 CRI, 3500K

WALL WASH

Test Number	P242000
Housing	PRS4FS12D010
Module	SM4128FS
Reflector	41SWWC
Lumens	1287 Lm
Efficacy	64.4 Lm/W
SC	0.94

SC = Spacing Criteria, nominal for specular clear reflector, others may vary.

CANDLEPOWER DISTRIBUTION

Downlight

269 537 806 1075
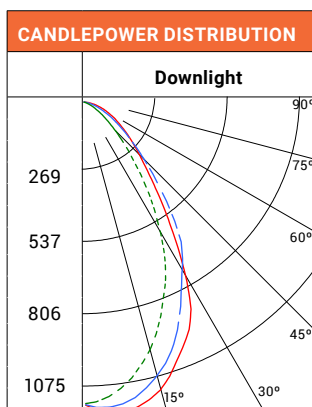
CANDELA TABLE

Degrees Vertical	Candela
0	1040
5	1070
15	1028
25	865
35	529
45	291
55	178
65	105
75	51
85	9
90	0

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0-30	658	51.1
0-40	937	72.8
0-60	1222	94.9
0-90	1287	100
90-180	0	0
0-180	1287	100

LUMINANCE

Average Candela Degrees	Average 0° Luminance
45	31511
55	23714
65	18999
75	15201
85	7553

SINGLE UNIT FOOTCANDLES

2.5' from wall
(distance from fixture along wall)

1	11.1	7.9	3	1	0.3	0.1	0
2	16.2	13.3	6.7	2.6	1	0.4	0.2
3	16.5	14	8.6	3.9	1.7	0.7	0.3
4	15.2	13.2	9	4.7	2.2	1.1	0.5
5	11.8	10.6	7.8	4.8	2.6	1.3	0.7
6	8.2	7.5	5.9	4.1	2.5	1.4	0.8
7	5.8	5.4	4.5	3.3	2.3	1.4	0.9
8	4.2	4	3.4	2.7	2	1.3	0.9
9	3.1	3	2.6	2.2	1.7	1.2	0.8
10	2.4	2.3	2.1	1.7	1.4	1.1	0.8

MULTIPLE UNIT FOOTCANDLES

	2.5' from wall (Distance from fixture along wall) 3			2.5' from wall (Distance from fixture along wall) 4		
1	12	10.3	12	11.4	6	11.4
2	18.9	19.9	18.9	17.2	13.5	17.2
3	20.4	23	20.4	18.2	17.1	18.2
4	19.9	22.3	19.9	17.4	18	17.4
5	16.6	18.6	16.6	14.4	15.5	14.4
6	12.4	13.5	12.4	10.7	11.7	10.7
7	9.1	10	9.1	8.1	8.9	8.1
8	6.9	7.5	6.9	6.2	6.8	6.2
9	5.3	5.7	5.3	4.8	5.3	4.8
10	4.1	4.4	4.1	3.8	4.1	3.8

Photometric Multipliers (Nominal lumen values)

1000 Lumen	1500 Lumen	2000 Lumen	3000 Lumen	4000 Lumen
0.47	0.62	1.00	1.27	1.83

Multipliers for relative lumen values with other series models.

CCT Multipliers – 80CRI

3000K	3500K	4000K
0.90	1.00	0.95

Multipliers for relative lumen values with other series color temperatures.

Color Finish Multipliers

| Finish code	C	H	MB	MW
Finish	Specular Clear	Semi-Specular	Matte Black	Matte White
Wall Wash Multiplier	1.00	0.96	0.76	0.99

Multipliers for relative lumen values with other cone color finishes.

COOPER
Lighting Solutions
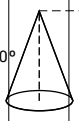
SHALLOW REFLECTORS 44S SERIES

NARROW DISTRIBUTION - SPECULAR CLEAR FINISH, 2000 LUMEN MODEL, 80 CRI, 3500K

NARROW (61° BEAM*)	
Test Number	P241775
Housing	PRS41FS12D010
Module	SM4128FS
Reflector	44SNDC
Lumens	1921 Lm
Efficacy	96.1 Lm/W
SC	0.9
UGR	20.3

CANDLEPOWER DISTRIBUTION

Downlight

390 / 780 / 1169 / 1559
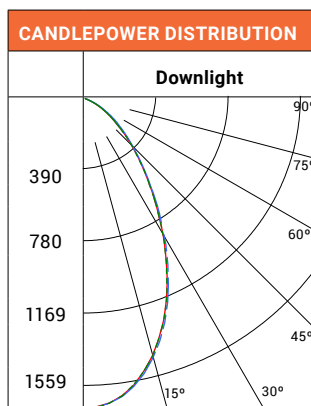
CONE OF LIGHT

MH	FC	L	W
5.5'	51.5	4.8	4.8
7'	31.8	6.2	6.2
8'	24.4	7.2	7
9'	19.2	8	8
10'	15.6	9	8.8
12'	10.8	10.8	10.6

CANDELA TABLE

Degrees Vertical	Candela
0	1559
5	1538
15	1343
25	1000
35	628
45	358
55	180
65	68
75	0
85	0
90	0

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0-30	982	51.1
0-40	1381	71.9
0-60	1836	95.5
0-90	1921	100
90-180	0	0
0-180	1921	100

LUMINANCE
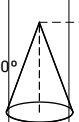
Average Candela Degrees	Average 0° Luminance
45	38710
55	24008
65	12407
75	0
85	0

MEDIUM DISTRIBUTION - SPECULAR CLEAR FINISH, 2000 LUMEN MODEL, 80 CRI, 3500K

MEDIUM (74 BEAM*)	
Test Number	P241790
Housing	PRS41FS12D010
Module	SM4128FS
Reflector	44SMDC
Lumens	2170 Lm
Efficacy	108.5 Lm/W
SC	1.03
UGR	20.9

CANDLEPOWER DISTRIBUTION

Downlight

354 / 708 / 1062 / 1416
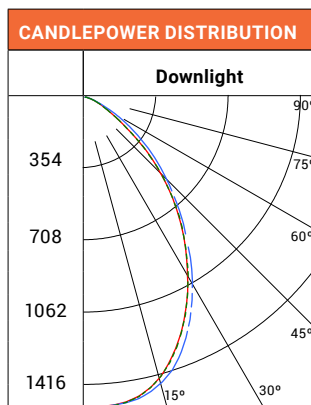
CONE OF LIGHT

MH	FC	L	W
5.5'	46.8	5.6	5.6
7'	28.9	7.2	7.2
8'	22.1	8.2	8.2
9'	17.5	9.2	9.2
10'	14.2	10.2	10.2
12'	9.8	12.2	12.4

CANDELA TABLE

Degrees Vertical	Candela
0	1416
5	1412
15	1319
25	1073
35	775
45	465
55	184
65	60
75	0
85	0
90	0

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0-30	1011	46.6
0-40	1508	69.5
0-60	2088	96.3
0-90	2170	100
90-180	0	0
0-180	2170	100

LUMINANCE

Average Candela Degrees	Average 0° Luminance
45	50314
55	24581
65	10867
75	0
85	0

COOPER Lighting Solutions

SHALLOW REFLECTORS 44S SERIES

WIDE DISTRIBUTION - SPECULAR CLEAR FINISH, 2000 LUMEN MODEL, 80 CRI, 3500K

WIDE (98° BEAM*)

Test Number	P252875
Housing	PRS41FS12D010
Module	SM4128FS
Reflector	44SWDC
Lumens	2080 Lm
Efficacy	104 Lm/W
SC	1.29
UGR	22.7

CANDLEPOWER DISTRIBUTION

Downlight
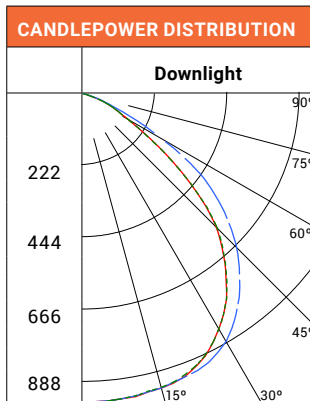
CONE OF LIGHT

MH	FC	L	W
5.5'	29.3	7	7
7'	18.1	9	9
8'	13.9	10.2	10.2
9'	11	11.6	11.6
10'	8.9	12.8	12.8
12'	6.2	15.4	15.4

CANDELA TABLE

Degrees Vertical	Candela
0	888
5	886
15	875
25	832
35	718
45	541
55	266
65	101
75	19
85	4
90	0

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0-30	718	34.5
0-40	1180	56.8
0-60	1923	92.5
0-90	2080	100
90-180	0	0
0-180	2080	100

LUMINANCE

Average Candela Degrees	Average 0° Luminance
45	58552
55	35538
65	18329
75	5501
85	3601

*Values are nominal for specular clear reflectors, others may vary.
SC = Spacing Criteria
UGR = Unified Glare Rating

Photometric Multipliers (Nominal lumen values)

1000 Lumen	1500 Lumen	2000 Lumen	3000 Lumen	4000 Lumen
0.47	0.62	1.00	1.27	1.83

Multipliers for relative lumen values with other series models.

CCT Multipliers – 80CRI

3000K	3500K	4000K
0.90	1.00	0.95

Multipliers for relative lumen values with other series color temperatures.

Color Finish Multipliers

Finish code	C	H	MB	MW
Finish	Specular Clear	Semi-Specular	Matte Black	Matte White
Narrow Multiplier	1.00	1.00	0.90	1.04
Medium Multiplier	1.00	0.99	0.91	1.03
Wide Multiplier	1.00	0.99	0.90	1.04

Multipliers for relative lumen values with other cone color finishes.

COOPER
Lighting Solutions

Energy & Performance Data

SM4128FS LED MODULE LOW LUMEN RANGE

Series	1000 lumen	
Input Voltage 120-277VAC	120V	277V
Input Current (A)	0.089	0.043
Input Power (W)	10.5	11
In-rush (A)	8.9	22.2
In-rush Duration (ms)	0.145	0.118
THD (%)	<15.1	<16.7
PF	≥ 0.98	≥ 0.92
(Nominal input 120-277VAC & 100% of rated output power)		
Minimum starting temperature -40°C (-40°F)*		
Sound Rating: Class A standards		

Series	1500 lumen	
Input Voltage 120-277VAC	120V	277V
Input Current (A)	0.112	0.052
Input Power (W)	13.4	13.8
In-rush (A)	9.9	24.8
In-rush Duration (ms)	0.198	0.107
THD (%)	<13.3	<15.5
PF	≥ 0.98	≥ 0.94
(Nominal input 120-277VAC & 100% of rated output power)		
Minimum starting temperature -40°C (-40°F)*		
Sound Rating: Class A standards		

Series	2000 lumen (Low Lumen)	
Input Voltage 120-277VAC	120V	277V
Input Current (A)	0.178	0.079
Input Power (W)	21.3	21.4
In-rush (A)	8	19.1
In-rush Duration (ms)	0.185	0.133
THD (%)	<8.2	<10.6
PF	≥ 0.99	≥ 0.97
(Nominal input 120-277VAC & 100% of rated output power)		
Minimum starting temperature -40°C (-40°F)*		
Sound Rating: Class A standards		

SM4348FS LED MODULE HIGH LUMEN RANGE

Series	3000 lumen	
Input Voltage 120-277VAC	120V	277V
Input Current (A)	0.225	0.101
Input Power (W)	26.9	27
In-rush (A)	11.6	27.9
In-rush Duration (ms)	0.187	0.081
THD (%)	<9.05	<11.8
PF	≥ 0.99	≥ 0.96
(Nominal input 120-277VAC & 100% of rated output power)		
Minimum starting temperature -40°C (-40°F)*		
Sound Rating: Class A standards		

Series	4000 lumen	
Input Voltage 120-277VAC	120V	277V
Input Current (A)	0.332	0.145
Input Power (W)	39.8	39.4
In-rush (A)	12.8	27.5
In-rush Duration (ms)	0.211	0.107
THD (%)	<5.9	<8.8
PF	≥ 0.99	≥ 0.98
(Nominal input 120-277VAC & 100% of rated output power)		
Minimum starting temperature -40°C (-40°F)*		
Sound Rating: Class A standards		

Notes:
* Emergency Battery packs are rated for a minimum starting temperature of 0°C.

COOPER
Lighting Solutions

Dimensional and Mounting Details

4", LOW LUMEN MODULE (1000 - 1500 - 2000 LUMEN)

44S SHALLOW REFLECTOR

2.5" [63mm]
.5" [12.7mm]
4.7" [119mm]
4.5" [114mm]
5.1" [128mm]
5.7" [146mm]
26.4" [671mm]

41S DEEP REFLECTOR

4" [101mm]
.5" [12.7mm]
4.7" [119mm]
4.5" [114mm]
5.1" [128mm]
5.7" [146mm]
26.4" [671mm]

4", HIGH LUMEN MODULE (3000 - 4000 LUMEN)

44S SHALLOW REFLECTOR

4.7" [119mm]
.5" [12.7mm]
4.5" [114mm]
5.1" [128mm]
5.7" [146mm]
26.4" [671mm]

41S DEEP REFLECTOR

6.2" [157mm]
.5" [12.7mm]
4.5" [114mm]
5.1" [128mm]
5.7" [146mm]
26.4" [671mm]
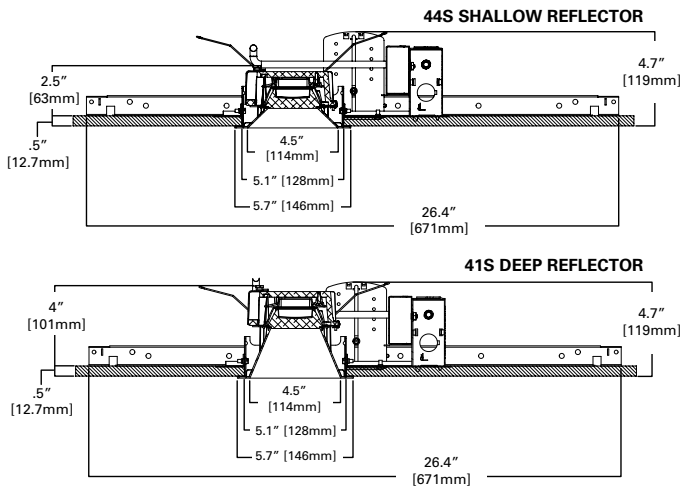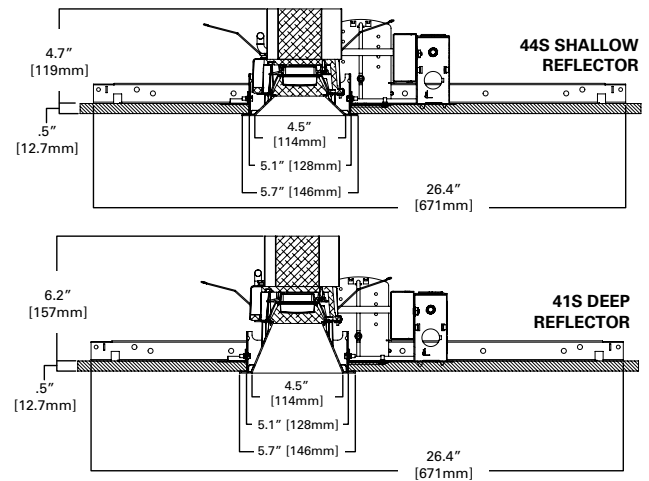
MAX HEIGHT (above finished ceiling)

LED MODULE	SM4128FS low lumen module	SM4348FS high lumen module
LUMEN RANGE	1000-1500-2000 Lumens	3000-4000 Lumens
41S Deep Reflector	4.2"	6.2"
44S Shallow Reflector	4.2" (2.5" w/out bar bracket)	4.7"

Connected Solutions

WaveLinx LITE - WTK Tilemount Sensor

WaveLinx LITE devices only compatible with the WaveLinx LITE system.

- Intuitive Android™ or Apple® iOS® app for basic system code compliant set up and configuration via Bluetooth
- Up to 28 unique areas per project site (WaveLinx LITE Bluetooth network)
- Up to 50 devices for an area, any one of 16 control zones, up to 6 occupancy sets, and custom lighting scenes
- Automatic occupancy or vacancy, sensor sensitivity, daylight dimming, etc. configurable through the app
- Refer to the WaveLinx system specifications for details

Device Security | Manual Dimmer | Occupancy Sensor | Daylighting Control | Manually Switched ON/OFF | Tuning Control | Lumen Maintenance Control | Scenes

WaveLinx LITE WTK Tilemount Wiring Diagram

120-277 VAC

Black (Hot)
White (Neutral)

Control module (MSP3IVMVDC1EP)

Pink (Dimming)
Purple (Dimming)
Blue (Not Switched)
White (Neutral)

0-10V DImming Driver

Includes switchleg (Blue load out wire) and 0-10V to each fixture controlled

WaveLinx LITE Tilemount Sensor Kit control module (MSP3IVMVDC1EP) (included)

54" Plenum cable (5140-000123-00) (included)

ceiling tile
ceiling cutaway view

WaveLinx LITE Sensor and Mounting Trim (included)

120-277 VAC 3A downlights with 0-10V control

WaveLinx LITE Bluetooth Enabled System
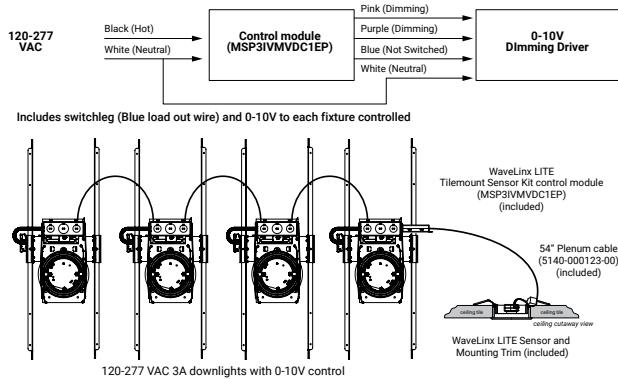
MyApps Secure Portal
Site Initiation, Data Backup & Site Transfer

WaveLinx LITE Mobile Application

WaveLinx LITE Ambient | WaveLinx LITE Integrated Ambient | WaveLinx LITE Tilemount Sensor Kit | WaveLinx LITE Wallstation | WaveLinx LITE Integrated Industrial | WaveLinx LITE Integrated Parking Garage
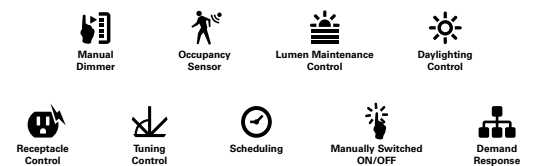
WaveLinx PRO – WTA Tilemount Sensor

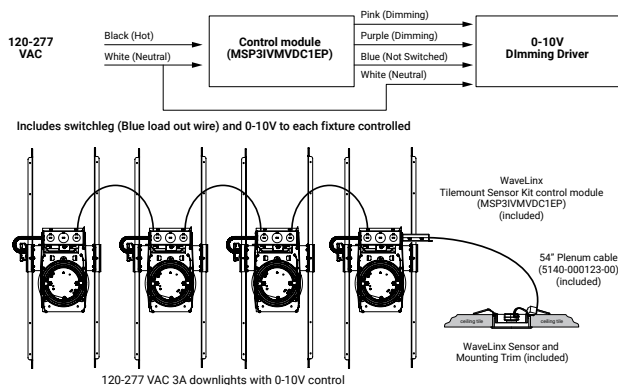**WaveLinx PRO devices only compatible with the WaveLinx PRO system.**

- WaveLinx PRO tilemount functionality configures zones and customizes settings from one secure mobile app
- Automatic code commissioning that meets the strictest codes
- Fixtures and sensors integrate with Wireless Area Controller, Wall Stations, and Control Devices
- Stand-Alone Offices or Entire Building Network Installations

Downlights with tilemount sensor wireless communication
Highly efficient LED fixtures

+

WaveLinx Area Controller
Provides centralized coordination of multiple area control options

+

Wireless Wall Station/Receptacle
Provides customized wireless control of each area

+

Mobile Applications
Provides personalized, local control from a tablet or smartphone

WaveLinx mobile app settings

Manual Dimmer | Occupancy Sensor | Lumen Maintenance Control | Daylighting Control

Receptacle Control | Tuning Control | Scheduling | Manually Switched ON/OFF | Demand Response

WaveLinx WTA Tilemount Wiring Diagram

120-277 VAC

Black (Hot)
White (Neutral)

Control module (MSP3IVMVDC1EP)

Pink (Dimming)
Purple (Dimming)
Blue (Not Switched)
White (Neutral)

0-10V DImming Driver

Includes switchleg (Blue load out wire) and 0-10V to each fixture controlled

WaveLinx Tilemount Sensor Kit control module (MSP3IVMVDC1EP) (included)

54" Plenum cable (5140-000123-00) (included)

ceiling tile
ceiling tile

WaveLinx Sensor and Mounting Trim (included)

120-277 VAC 3A downlights with 0-10V control

WaveLinx CORE Building Management Integration

BACnet/IP Public (REST) API
Desktop/Laptop with web browser (hardware provided by user)
WaveLinx CORE
Third Party system (hardware provided by others)
Building LAN
BACnet Router¹ (hardware provided by others)
PoE Power
Touchscreen
Smartphone with WaveLinx app used for system setup and personal control
Area or Room
WaveLinx Area Controller
Area or Room

Area or Room
120-347V 20A PRO Dimming Switchpacks | PRO Occupancy Ceiling Sensor | PRO Controlled Receptacle | PRO Wallstation | WaveLinx PRO enabled Indoor Fixture | WaveLinx PRO enabled Outdoor Fixture

KEY
Wi-Fi Signal
IEEE 802.15.4

WaveLinx PRO controlled devices
(up to 300 devices per WACC - 150 devices best practice) - see Note

Connected Solutions

WaveLinx LITE Wireless Node - WLN

WaveLinx LITE devices only compatible with the WaveLinx LITE system.

- Intuitive Android™ or Apple® iOS® app for basic system code compliant set up and configuration via Bluetooth
- Up to 28 unique areas per project site (WaveLinx LITE Bluetooth network)
- Up to 50 devices for an area, any one of 16 control zones, up to 6 occupancy sets, and custom lighting scenes
- Refer to the WaveLinx system specifications for details

WaveLinx mobile app settings

| Device Security | Manual Dimmer | Occupancy Sensor | Daylighting Control | Manually Switched ON/OFF | Tuning Control | Lumen Maintenance Control | Scenes |

WaveLinx LITE Wireless Node (WLN) Wiring Diagram

WaveLinx LITE Bluetooth Enabled System

WaveLinx LITE Ambient | WaveLinx LITE Integrated Ambient | WaveLinx LITE Tilemount Sensor Kit | WaveLinx LITE Wallstation | WaveLinx LITE Integrated Industrial | WaveLinx LITE Integrated Parking Garage

WaveLinx PRO Wireless Node - WPN

WaveLinx PRO devices only compatible with the WaveLinx PRO system.

- WaveLinx Wireless functionality configures zones and customizes settings from one secure mobile app
- Automatic code commissioning that meets the strictest codes
- Fixtures and sensors integrate with WaveLinx Area Controller, Wall Stations, and Control Devices
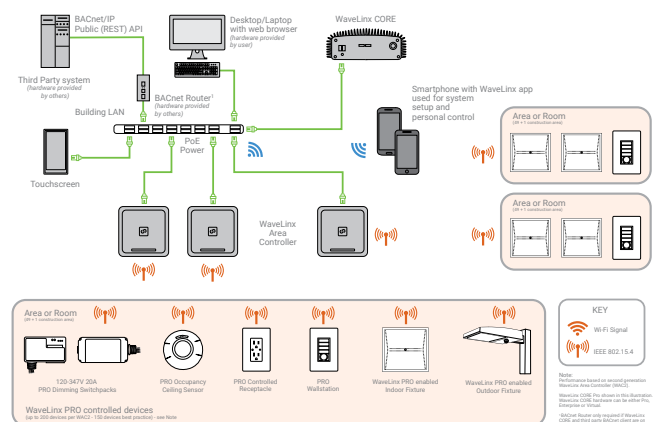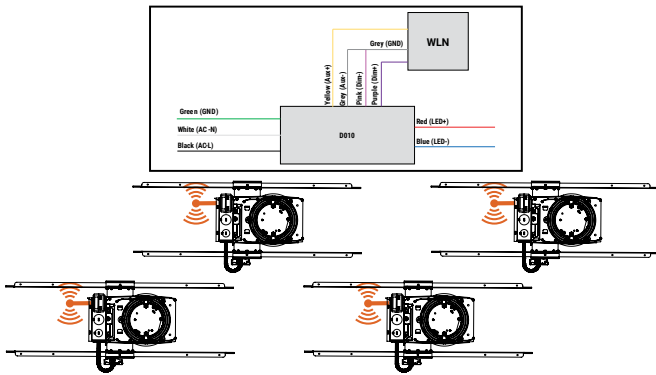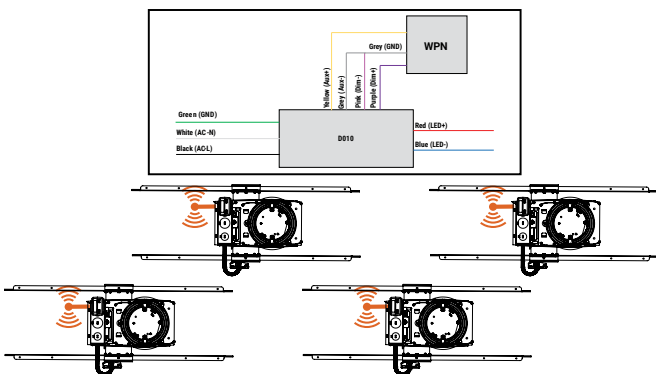- Stand-Alone Offices or Entire Building Network Installations

Downlights with wireless communication
Highly efficient LED fixtures

WaveLinx Area Controller
Provides centralized coordination of multiple area control options

Wireless Wall Station/Receptacle
Provides customized wireless control of each area

Mobile Applications
Provides personalized, local control from a tablet or smartphone

WaveLinx mobile app settings

| Manual Dimmer | Occupancy Sensor | Lumen Maintenance Control | Daylighting Control |
| Receptacle Control | Tuning Control | Scheduling | Manually Switched ON/OFF | Demand Response |

WaveLinx PRO Wireless Node (WPN) Wiring Diagram

WaveLinx CORE Building Management Integration