

DESCRIPTION

4 inch LED recessed narrow, medium, or wide beam downlight designed for glare free even illumination. Featuring a two-stage diffused reflector system producing smooth distribution with excellent light control and low aperture brightness. Lumen packages range from 500 to 6000 with color temperatures of 2400K, 2700K, 3000K, 3500K, 4000K, and 5000K. VividTune: Dim-to-warm technology – similar to halogen at full power, the 3000K LED warms smoothly as dimmed to 1850K creating a rich warm glow within the space. Tunable white technology - adjust the color temperature from warm white to cool white while independently controlling intensity.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Lower Shielding Reflector

Painted die cast aluminum or spun aluminum lower reflector with a lensed upper optical chamber providing superior lumen output with minimal source brightness. Spun reflectors are offered in all Portfolio Alzak® finishes. Available with non-conductive polymer trim. Reflector is retained with two torsion springs holding the flange tight to the finished ceiling surface. Plaster lathing ring accessory offered for flush reflector transition.

Plaster Frame / Collar

Die cast aluminum 1-1/2" deep collar accommodates ceiling materials up to 2". Universal mounting bracket accepts 1/2" EMT, C channel and bar hangers and adjusts 5" vertically from above and below the ceiling.

Junction Box

Listed for (8) #12 AWG (four in, four out) 90°C conductors and feed thru branch wiring. (4) 1/2" and (2) 3/4" trade size pry outs positioned to allow straight conduit runs. Lever connectors for simple push in wiring.

Thermal

Aluminum heat sink conducts heat away from the LED module for optimal performance and long life.

LED

Chip on board with a multitude of highly efficient white LED's, combined with a high reflectance upper reflector and convex transitional lens produce even distribution with no pixilation. Lumen output shall not decrease by more than 10% over the minimum life of 55,000 hours (L90 > 55,000 hours). Auto resetting, thermally protected,

LED's are turned off when safe operating temperatures are exceeded. Color variation within 2-step MacAdam ellipses. Quick disconnect allows for tool-less replacement of LED engine from below ceiling. Available in 80, 90 or 97 CRI. **D2W™** – dim-to-warm shifts CCT from 3000K to 1850K as fixture dims mimicking halogen sources. **W2N** - Tunable white CCT range 2700K to 6500K or 2000K to 5000K, 90 CRI.

Driver

Standard 120-277V 0-10V dimming driver provides flicker free dimming from 100% to 1%. Optional 120V leading edge, <1% 0-10V, Fifth Light, DMX or Lutron® Ecosystem. Driver can be serviced from above or through the aperture. Distributed low voltage power system combines power, lighting, and controls with ease of installation.

Connected Lighting System Options

Two WaveLinX connected systems to choose from. Refer to WaveLinX system specifications and application guides for details.

WaveLinX Wireless System Tilemount Sensor Kit

- WaveLinX Wireless WTA tile mount sensor kit offers daylight dimming, PIR motion sensing, scene and zone configuration, automatic commissioning; and optional RLTS - Real Time Location Services available.

WaveLinX Lite System Tilemount Sensor Kit

- WaveLinX Lite WTK tile mount

sensor kit offers daylight dimming and PIR motion sensing, scene and grouping configuration.

WaveLinX Tilemount Kits Application

- The WTA and WTK tilemount 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 kits may be ordered as factory installed on the luminaire, or ordered separately as a field installed accessory kit.

Code Compliance

Thermally protected and cULus listed for wet locations with covered ceiling. IP66 rated when used with IP66 gasket kit accessory. Optional City of Chicago environmental air (CCEA) marking for plenum applications. EMI/RFI emissions per FCC 47CFR Part 18 Class B consumer limits. 2000 lumen and above are Non-IC rated - Insulation must be kept 3" from top and sides of housing. IC rated up to 1500 lumens. 5000 lumen and above are marked spacing and must follow spacing requirements. RoHS Compliant. Photometric testing completed in accordance with IES LM 79. Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11.

- Options to meet Buy American and other domestic preference requirements

Warranty

5-year warranty

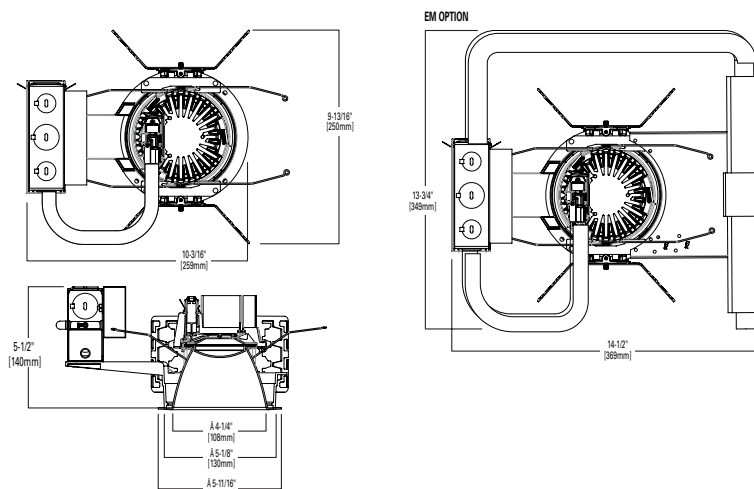


**LD4B EU4B
4LBW 4LBM
4LBN**

500-6000 Lumen LED

Narrow, Medium, or Wide Beam

New Construction



Domestic Preferences ²⁰	Housing	Lumens ¹	Voltage	Driver	Options ³
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	LD4B=LED Downlight 4" Nominal Aperture LD4BCP=LED Downlight 4" Nominal Aperture, Chicago Plenum	05=500 lumens ¹⁹ 10=1000 lumens 15=1500 lumens 20=2000 lumens 30=3000 lumens 40=4000 lumens 50=5000 lumens ¹⁵ 60=6000 lumens ¹⁵	Blank=120-277V 3=347V (step down transformer)	500-4000 D010=0-10V Dimming, 1% to 100%, 120V-277V D010TR=0-10V or Line Voltage Dimming, 5% to 100%, 120V-277V DE010=0-10V Linear Dimming, 0% to 100%, 120V-277V D5LT=Fifth Light® DALI DT6 Logarithmic Dimming, 0% to 100%, 120V-277V DMX=DMX/RDM Logarithmic Dimming, 0% to 100%, 120V-277V ¹³ DMXC5=DMX/RDM Logarithmic Dimming, 0% to 100%, 120V-277V, with RJ45 connection DL2=Lutron® Hi-Lume Forward Phase Dimming, 1% to 100%, 120V Only DLE=Lutron Ecosystem dimming 1% to 100%, 120V-277V DLV=Low voltage dimming driver (1-100%) for use with DLVP system (3000 lumen and below) ^{3,14} 5000-6000 D010TE=0-10V 1% or trailing edge 10%, 120-277V (120V only with trailing edge dimming) Tunable white 1000-2000 Lumens ¹⁴ 1DE010W2N2050=0-10V dimming, 0% to 100%, 120V, 2000K - 5000K 1DE010W2N2765=0-10V dimming, 0% to 100%, 120V, 2700K - 6500K 1D5LTW2N2050=Fifth Light DALI DT6 Logarithmic Dimming, 0% to 100%, 120, 2000K - 5000K 1D5LTW2N2765=Fifth Light DALI DT6 Logarithmic Dimming, 0% to 100%, 120V, 2700K - 6500K 2DE010W2N2050=0-10V dimming, 0% to 100%, 277V, 2000K - 5000K 2DE010W2N2765=0-10V dimming, 0% to 100%, 277V, 2700K - 6500K 2D5LTW2N2050=Fifth Light DALI DT6 Logarithmic Dimming, 0% to 100%, 277V, 2000K - 5000K 2D5LTW2N2765=Fifth Light DALI DT6 Logarithmic Dimming, 0% to 100%, 277V, 2700K - 6500K	EMBOD=Bodine® Emergency Module with Remote Test Switch EMBOD7ST =Bodine® Emergency Module with Self Test Remote Test Switch EM7=7W Emergency Module with Remote Test Switch EM14=14W Emergency Module with Remote Test Switch IEMBOD=Bodine® Emergency Module with Integral Test Switch IEM7=7W Emergency Module with Integral Test Switch IEM14=14W Emergency Module with Integral Test Switch EMV7=7W Low Voltage Emergency Module with Remote Test Switch ⁴ EMV14=14W Low Voltage Emergency Module with Remote Test Switch ⁴ IEMV7=7W Low Voltage Emergency Module with Integral Test Switch ⁴ IEMV14=14W Low Voltage Emergency Module with Integral Test Switch ⁴ WTA = Factory installed WaveLinX sensor Kit ^{14,17} WTK = Factory installed WaveLinX Lite Sensor Kit ^{14,18}

SAMPLE NUMBER: EU4B10208035

Domestic Preferences ²⁰	Power Module	Lumen Levels ¹	CRI	Color
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	EU4B=4" Universal LED Module	05=500 lumens 1020=1000, 1500, 2000 lumens 3040=3000-4000 lumens 5000=5000 lumens ¹⁵ 6000=6000 lumens ¹⁵ 1015IC=1000, 1500 lumen IC rated	80=80 CRI Minimum 90=90 CRI Minimum 97=97 CRI Minimum	80 CRI 27=2700K 30=3000K 35=3500K 40=4000K 50=5000K 90 CRI 24=2400K 27=2700K 30=3000K 35=3500K 40=4000K 50=5000K 97 CRI 27=2700K 30=3000K
		Dim 2 Warm 109030D2W=1000 lumen, 90 CRI, Dim 2 Warm, IC rated 159030D2W=1500 lumen, 90 CRI, Dim 2 Warm, IC rated 209030D2W=2000 lumen, 90 CRI, Dim 2 Warm 309030D2W=3000 lumen, 90 CRI, Dim 2 Warm	Tunable white ¹⁴ 1020W2N902050 =1000, 1500, 2000 lumens, 90 CRI, tunable white 2000K-5000K 1020W2N902765 =1000, 1500, 2000 lumens, 90 CRI, tunable white 2700K-6500K	

SAMPLE NUMBER: 4LBM1LE

Domestic Preferences ²⁰	Trim	Distribution ⁵	Flange	Finish	Options
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	4LB=4" LED	N=Narrow (30° Beam), Spun Aluminum M=Medium (50° Beam), Spun Aluminum W=Wide (75° Beam), Spun Aluminum S=Shallow (75° Beam), Spun Aluminum PS=Non-conductive Shallow (75° Beam), Injection Moulded white ¹¹ CS=Cast Shallow (75° Beam), Die Cast Aluminum BA=Baffle, Spun Aluminum ⁷	0=White Polymer Trim Ring 1=Self-flanged ¹² 2=White Painted Self-flanged	LI=Specular Clear ¹⁰ H=Semi-Specular Clear ¹⁰ WMH=Warm Haze ¹⁰ WH=Wheat ¹⁰ GPH=Graphite Haze ¹⁰	B=Specular Black ¹⁰ MW=Matte White MB=Matte Black ³ MMS=Matte Metallic Silver ⁸ E=Integral Emergency Test Switch Hole ⁹

Accessories²¹

- HSA4=Slope Adapter for 4" Aperture Housings, Specify Slope in 5° increments
- TRM4=Metal Trim Ring, Specify Color²
- TRR4=Rimless Trim Ring²
- LGSKT4IP66=IP66 Gasket Kit
- PRR4=Rimless Plaster Ring for Flush Mount²
- Bar Hangers**
- HB26=C-channel Bar Hanger, 26" Long, Pair
- BAA-HB26=Pair C-channel bar hanger, 26" long²⁰
- TAA-HB26=Pair C-channel bar hanger, 26" long²⁰
- HB50=C-channel Bar Hanger, 50" Long, Pair
- RMB22=Wood Joist Bar Hanger, 22" Long, Pair
- Transformers**
- H347=347 to 120V Step Down Transformer, 75VA
- H347200=347 to 120V Step Down Transformer, 200VA
- Connected Lighting Systems^{5,14}**
- WTA = Field installed WaveLinX sensor Kit¹⁷
- WTK = Field installed WaveLinX Lite Sensor Kit¹⁸

Notes:

- Nominal Lumens will vary depending on selected color, driver and reflector finish.
- Order spun trim with polymer trim ring or die cast with rimless flange (Consult specification sheet for color ordering information and options).
- Not available with Chicago Plenum.
- ULus approved only.
- Beam angles are nominal with LI finish trims.
- Only available with Narrow and Medium Spun Aluminum trims. Required for use with all IEMBOD, IEM7, and IEM14 housings.
- Only available with Matte White and Matte Black Finishes.
- Only available on CS distribution.
- Available only on BA and CS distributions.
- Not available on PS, CS or BA distributions.
- Matte white and self flanged only, 2000 lumen max.
- Flange is same finish as the reflector.
- DMX fixtures default to full on upon loss of DMX signal.
- Refer to system specifications for additional information, features, and benefits. Order either factory installed option or accessory. Use with 0-10V driver.
- Product is marked spacing and must be installed with the following minimum spacing

- Center to center of adjacent luminaires: 36"
- Center of luminaire to side of building member: 18"
- Minimum overhead: ½"
- 16 Non-IC
- 17 WTA = WaveLinX wireless sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with 0-10V only.
- 18 WTK = WaveLinX Lite tile mount sensor kit for daylight dimming, PIR motion sensing, use with D010 only (Refer to WaveLinX Lite system specifications)
- 19 Limited to D010 drivers.
- 20 Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements. Offered with spun aluminum narrow, medium and wide trims.
- 21 Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.

ENERGY

ENERGY DATA
Sound Rating: Class A standards (Values at non-dimming line voltage)
Minimum Starting Temperature: -30°C (-22°F)
EMI/RFI: FCC Title 47 CFR, Part 15, Class B (Consumer)
Input Voltage: UNV (120V - 277V)
Power Factor: >0.90 (at nominal input 120-277 VAC & 100% of Rated Output Power)
Input Frequency: 50/60Hz

1000 Lumen D010		1500 Lumen D010	
Input Power: 11W	THD: <14%	Input Power: 15.5W	THD: <13%
120V Input Current: 0.09A	277V Input Current: 0.04A	120V Input Current: 0.13A	277V Input Current: 0.06A
2000 Lumen D010		3000 Lumen D010	
Input Power: 21.2W	THD: <9%	Input Power: 27.6W	THD: <10%
120V Input Current: 0.18A	277V Input Current: 0.08A	120V Input Current: 0.23A	277V Input Current: 0.10A
4000 Lumen D010		5000 Lumen D010TE	
Input Power: 41.6W	THD: <13%	Input Power: 57.9W	THD: <14%
120V Input Current: 0.35A	277V Input Current: 0.15A	120V Input Current: 0.49A	277V Input Current: 0.22A
6000 Lumen D010TE			
Input Power: 59.7W		THD: <14%	
120V Input Current: 0.50A		277V Input Current: 0.22A	

Lumens	120V		277V	
	Inrush (A)	Duration (ms)	Inrush (A)	Duration (ms)
1000 Lumen D010	1.02	0.041	2.18	0.021
1500 Lumen D010	1.02	0.042	2.24	0.064
2000 Lumen D010	1.02	0.077	2.43	0.027
3000 Lumen D010	1.15	0.067	3.26	0.027
4000 Lumen D010	1.2	0.088	3.9	0.03
5000 Lumen D010TE	5.1	0.132	10.2	0.153
6000 Lumen D010TE	5.4	0.123	10.8	0.154

PHOTOMETRY

NARROW (30° BEAM)		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT		CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE	
Test Number	P201208					Degrees Vertical	Candela	Zone	Lumens	% Fixture	Average Candela Degrees	Average 0° Luminance
Housing	LD4B15D010					0	2790	0-30	926	82.1	45	489
Module	EU4B10208035					5	2550	0-40	1094	97	55	55
Trim	4LBN1LI					15	1421	0-60	1127	99.9	65	26
Lumens	1128					25	667	0-90	1128	100	75	0
Efficacy	78.9 Lm/W					35	266	90-180	0	0	85	0
SC	0.5	45	32	0-180	1128	100						
		55	3									
		65	1									
		75	0									
		85	0									
		90	0									

MEDIUM (50° BEAM)		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT		CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE	
Test Number	P201206					Degrees Vertical	Candela	Zone	Lumens	% Fixture	Average Candela Degrees	Average 0° Luminance
Housing	LD4B15D010					0	2267	0-30	1144	77.3	45	1072
Module	EU4B10208035					5	2227	0-40	1406	95	55	151
Trim	4LBM1LI					15	1690	0-60	1477	99.7	65	77
Lumens	1481					25	1027	0-90	1481	100	75	42
Efficacy	103.6 Lm/W					35	409	90-180	0	0	85	0
SC	0.71	45	70	0-180	1481	100						
		55	8									
		65	3									
		75	1									
		85	0									
		90	0									

WIDE (75° BEAM)		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT		CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE	
Test Number	P201204					Degrees Vertical	Candela	Zone	Lumens	% Fixture	Average Candela Degrees	Average 0° Luminance
Housing	LD4B15D010					0	914	0-30	816	53.8	45	4372
Module	EU4B10208035					5	925	0-40	1252	82.5	55	574
Trim	4LBW1LI					15	998	0-60	1513	99.7	65	100
Lumens	1518					25	977	0-90	1518	100	75	42
Efficacy	106.2 Lm/W					35	707	90-180	0	0	85	0
SC	1.3	45	286	0-180	1518	100						
		55	30									
		65	4									
		75	1									
		85	0									
		90	0									

SHALLOW (75° BEAM)		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT		CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE	
Test Number	P201210					Degrees Vertical	Candela	Zone	Lumens	% Fixture	Average Candela Degrees	Average 0° Luminance
Housing	LD4B15D010					0	688	0-30	512	34.2	45	5827
Module	EU4B10208035					5	682	0-40	816	54.5	55	4771
Trim	4LBCS1MMS					15	645	0-60	1333	89	65	3226
Lumens	1497					25	577	0-90	1497	100	75	1339
Efficacy	104.7 Lm/W					35	486	90-180	0	0	85	124
SC	1.16	45	380	0-180	1497	100						
		55	253									
		65	126									
		75	32									
		85	1									
		90	0									

PHOTOMETRY

NARROW (25° BEAM)		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT		CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE	
Test Number	PP201209					Degrees Vertical	Candela	Zone	Lumens	% Fixture	Average Candela Degrees	Average 0° Luminance
Housing	LD4B40D010					0	7625	0-30	2531	82.1	45	1337
Module	EU4B30408035					5	6969	0-40	2989	97	55	149
Trim	4LBN1LI					15	3883	0-60	3080	99.9	65	67
Lumens	3083					25	1822	0-90	3083	100	75	0
Efficacy	73.8 Lm/W	35	727	90-180	0	0	85	0				
SC	0.5	45	87	0-180	3083	100						
		55	8									
		65	3									
		75	0									
		85	0									
		90	0									
D	FC	L	W									
5.5'	252	2.6	2.6									
7'	156	3.4	3.4									
8'	119	3.8	3.8									
9'	94	4.4	4.4									
10'	76	4.8	4.8									
12'	53	5.8	5.8									

MEDIUM (50° BEAM)		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT		CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE	
Test Number	P201207					Degrees Vertical	Candela	Zone	Lumens	% Fixture	Average Candela Degrees	Average 0° Luminance
Housing	LD4B40D010					0	6015	0-30	3036	77.3	45	2844
Module	EU4B30408035					5	5909	0-40	3731	95	55	400
Trim	4LBM1LI					15	4484	0-60	3918	99.7	65	205
Lumens	3929					25	2725	0-90	3929	100	75	113
Efficacy	94 Lm/W	35	1085	90-180	0	0	85	0				
SC	0.71	45	186	0-180	3929	100						
		55	21									
		65	8									
		75	3									
		85	0									
		90	0									
D	FC	L	W									
5.5'	199	3.8	3.8									
7'	123	5	5									
8'	94	5.6	5.6									
9'	74	6.4	6.4									
10'	60	7	7									
12'	42	8.4	8.4									

WIDE (75° BEAM)		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT		CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE	
Test Number	P201205					Degrees Vertical	Candela	Zone	Lumens	% Fixture	Average Candela Degrees	Average 0° Luminance
Housing	LD4B40D010					0	2499	0-30	2230	53.8	45	11948
Module	EU4B30408035					5	2528	0-40	3421	82.5	55	1569
Trim	4LBW1LI					15	2727	0-60	4134	99.7	65	274
Lumens	4148					25	2670	0-90	4148	100	75	113
Efficacy	99.2 Lm/W	35	1933	90-180	0	0	85	0				
SC	1.3	45	780	0-180	4148	100						
		55	83									
		65	11									
		75	3									
		85	0									
		90	0									
D	FC	L	W									
5.5'	83	7	7									
7'	51	9	9									
8'	39	10.4	10.4									
9'	31	11.6	11.6									
10'	25	13	13									
12'	17	15.6	15.6									

SHALLOW (75° BEAM)		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT		CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE	
Test Number	P201211					Degrees Vertical	Candela	Zone	Lumens	% Fixture	Average Candela Degrees	Average 0° Luminance
Housing	LD4B40D010					0	1880	0-30	1400	34.2	45	15933
Module	EU4B30508035					5	1864	0-40	2230	54.5	55	13046
Trim	4LBCS1MMS					15	1763	0-60	3645	89	65	8819
Lumens	4093					25	1578	0-90	4093	100	75	3657
Efficacy	97.9 Lm/W	35	1329	90-180	0	0	85	323				
SC	1.16	45	1040	0-180	4093	100						
		55	691									
		65	344									
		75	87									
		85	3									
		90	0									
D	FC	L	W									
5.5'	62	6.2	6.2									
7'	38	8	8									
8'	29	9.2	9.2									
9'	23	10.4	10.4									
10'	19	11.6	11.6									
12'	13	13.8	13.8									

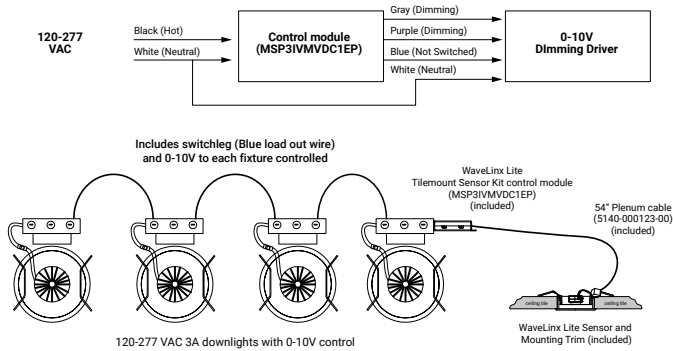
Connected Systems

WaveLinx Lite - WTK Tilemount Sensor

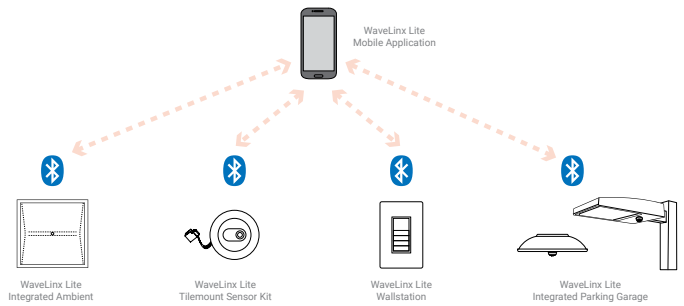
- Intuitive Android™ or Apple® iOS® app for basic system code compliant set up and configuration via Bluetooth
- Up to 28 unique areas per project site (WaveLinx Lite Bluetooth network)
- Up to 50 devices for an area, any one of 16 control zones, up to 6 occupancy sets, and custom lighting scenes
- Automatic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



WaveLinx Lite WTK Tilemount Wiring Diagram



WaveLinx Lite Bluetooth Enabled System



WaveLinx Wireless – WTA Tilemount Sensor

- 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 Wireless Area Controller, Wall Stations, and Control Devices
- Stand-Along Offices or Entire Building Network Installations



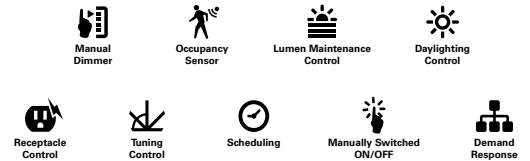
Downlights with tilemount sensor wireless communication
Highly efficient LED fixtures

Wireless Area Controller
Provides centralized coordination of multiple area control options

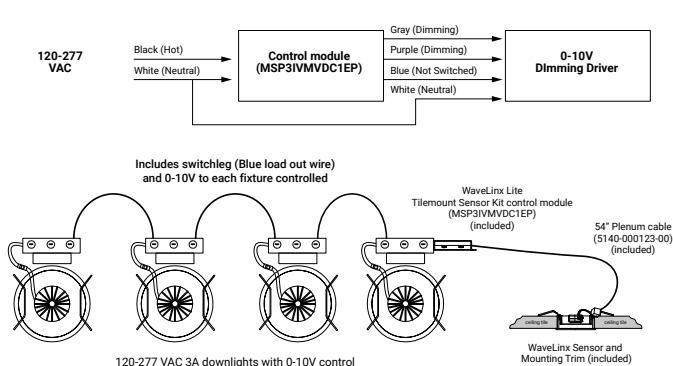
Wireless Wall Station/Receptacle
Provides customized wireless control of each area

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

WaveLinx mobile app settings



WaveLinx Lite WTA Tilemount Wiring Diagram



WaveLinx Wireless Trellix Building Management Integration

