

Project		Catalog #		Type	
Prepared by		Notes		Date	



Portfolio

LDA2B | 2LB

2-inch LED Round Adjustable, New Construction
500, 1000, 1500, 2000 Lumens

Typical Applications

Healthcare • Hospitality • Retail • Institutional • Indoor Display & Signage

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- Product Warranty

Product Certification



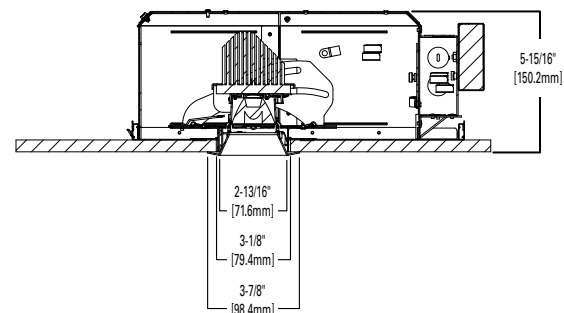
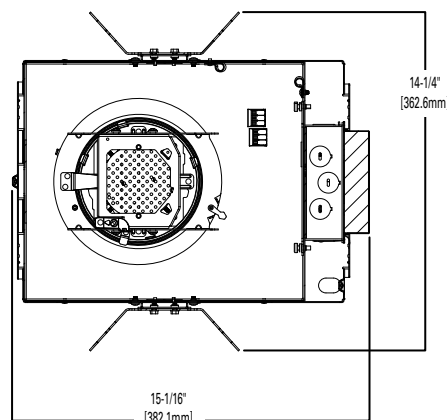
Product Features



Top Product Features

- Adjustable accent/slope or lensed wall wash (flat or sloped ceilings)
- Excellent light control and low aperture brightness
- 365° rotation and 45° tilt holds any aiming position
- Round die-cast or spun aluminum reflectors; Holds 2 lens media
- 6 color temperatures: 2400K, 2700K, 3000K, 3500K, 4000K and 5000K CCT
- CRI: 80, 90 or 97; D2W™ option from 3000K to 1850K; W2N Tunable White
- Lumens: 500-2,000; Field-interchangeable optics: 15°, 25°, 40° or 55°
- 0-10V 1% dimming driver; Optional 100%-1% (DALI), 0-10V or DMX drivers

Dimensional and Mounting Details



Order Information

SAMPLE ORDER NUMBER: **LDA2B159030D010**

Housing	Lumens	Distribution	CRI	Color			Voltage
Housing	Lumens ⁽¹⁾	Distribution	CRI	Color			Voltage
LDA2B=New Construction Adjustable 2" Nominal Aperture LDA2BCP=New Construction Adjustable 2" Nominal Aperture Chicago Plenum ⁽¹¹⁾	05=500 lumens ⁽¹³⁾ 10=1000 lumens 15=1500 lumens 20=2000 lumens	2R15SP=15° optic 2R20=20° optic 2R25NFL=25° optic 2R30=30° optic 2R35=35° optic 2R40FL=40° optic 2R45=45° optic 2R50=50° optic 2R55WFL=55° optic 2R60=60° optic 2R65=65° optic 2R70=70° optic Blank=no optic (order accessory reflector)	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	Blank=120-277V 3=347V 0-10V only 1000-2000 lumens
			Dim to Warm (1000 & 1500 lumens only) 9030D2W=Dim to warm, 90CRI Tunable White (1000 lumens only) W2N902050 = 2000K-5000K W2N902765 = 2700K-6500K Choose 5LT or DE010 driver				
Notes (11) Must be used with lensed reflector.	Notes (1) Nominal Lumens will vary depending on selected color, driver and reflector finish. (13) Limited to D010, D010A and DLVP drivers.	Notes	Notes			Notes	

Driver	Options
Driver	Options ^{(2) (10)}
D010=0-10V Dimming 1%-100%, 120-277V D010A=0-10V Dimming 1%-100%, 120-277V for installations with above ceiling access ⁽¹⁰⁾ D010TR=0-10V 120-277V Dimming 1%-100%, or 120V 5% line voltage dimming D010ATR=0-10V 120-277V Dimming 1%-100%, or 120V 5% line voltage dimming for installations with above ceiling access ⁽¹⁰⁾ DE010=0-10V Linear Dimming, 0% to 100%, 120V-277V ⁽¹⁰⁾ D5LT=Fifth Light® DALI DT6 Logarithmic Dimming, 0% to 100%, 120V-277V ⁽¹⁰⁾ DMX=DMX/RDM Logarithmic Dimming, 0% to 100%, 120V-277V ^{(6) (10)} DMXC5=DMX/RDM Logarithmic Dimming, 0% to 100%, 120V-277V, with RJ45 connection ^{(6) (10)} DL2=Lutron® Hi-Lume Forward Phase Dimming, 1% to 100%, 120V Only ⁽¹⁰⁾ DLE=Lutron Ecosystem dimming 1% to 100%, 120V-277V ⁽¹⁰⁾ DLV=Low voltage dimming driver 1-100% for use with DLVP system ⁽¹⁰⁾	EMB0D=Bodine® Emergency Module with Remote Test Switch EMB0D7ST=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 (not for use with DLVP driver) EMV7=7W Low Voltage Emergency Module with Remote Test Switch (for use with DLVP driver) ⁽⁸⁾ EMV14=14W Low Voltage Emergency Module with Remote Test Switch (for use with DLVP driver) ⁽⁸⁾ WTA=Factory installed WaveLinX Sensor Kit ⁽⁸⁾ WTK=Factory installed WaveLinX Lite Sensor Kit ⁽¹³⁾
Notes (6) DMX fixtures default to full on upon loss of DMX signal. (10) Requires above ceiling access.	Notes (2) Not available with Chicago Plenum. (8) UL US approved only. (9) WTA = WaveLinX wireless sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with 0-10V only. (10) Requires above ceiling access. (13) WTK = WaveLinX Lite tile mount sensor kit for daylight dimming, PIR motion sensing, use with D010 only (Refer to WaveLinX Lite system specifications) (14) Refer to system specifications for additional information, features and benefits. Order either factory installed option or accessory, use with 0-10V driver.

SAMPLE ORDER NUMBER: **LDA2B159030D010**

Trim	Reflector	Flange	Finish
Trim	Reflector	Flange	Finish
2LB=2" trim	D=Spun aluminum SW=Spun aluminum splay lensed wall wash with black oculus ⁽⁷⁾ SWW=Spun aluminum splay lensed wall wash with white oculus ⁽⁷⁾ DL=Lensed spun aluminum DC=Die cast aluminum ⁽³⁾ DLC=Lensed die cast aluminum ⁽³⁾ PIN=Pinhole with black oculus ⁽³⁾ PINW=Pinhole with white oculus ⁽³⁾	1=Self-flanged 2=White Painted Self-flanged 3=Trimless ⁽¹²⁾ Blank=Pinhole	LI=Specular Clear ⁽⁵⁾ H=Semi-Specular Clear ⁽⁵⁾ WMH=Warm Haze ⁽⁵⁾ WH=Wheat ⁽⁵⁾ WHH=Wheat Haze ⁽⁵⁾ GPH=Graphite Haze ⁽⁵⁾ B=Specular Black ⁽⁵⁾ MW=Matte White MB=Matte Black ⁽⁴⁾ MMS=Matte Metallic Silver ⁽⁴⁾
Notes (11) Must be used with lensed reflector.	Notes (3) Only available with Matte White, Matte metallic silver and Matte Black Finishes. (7) Housing ships standard at 15° tilt for optimal wall wash position.	Notes (12) Available on D, DL, DLC and DC.	Notes (4) Available only on DC. (5) Not available on Pinhole or DC distributions

Accessories

Accessories

2RAPR=Round plaster lathing ring (order with rimless option)

EDC2SQ=Ceiling extension kit for ceilings 7/8" - 1-1/4"

Bar Hangers

HB26=Pair C-channel bar hanger, 26" long

HB50=Pair C-channel bar hanger, 50" long

RMB22=Pair wood joist bar hanger 22" long

Connected Lighting Systems⁽¹⁴⁾

WTA = Field installed WaveLinX sensor kit⁽⁹⁾

WTK = Field installed WaveLinX Lite Sensor Kit⁽¹³⁾

Beam Forming Optic (required when ordering no optic for distribution)

2R15SP=15°

2R20=20°

2R25NFL=25°

2R30=30°

2R35=35°

2R40FL=40°

2R45=45°

2R50=50°

2R55WFL=55°

2R60=60°

2R65=65°

2R70=70°

L100 lenses - color filters

L112=Red Gel Filter

L114=Ultraviolet, Dichoric Filter

L120=Red, Dichoric Filter

L121=Amber, Dichoric Filter

L122=Yellow, Dichoric Filter

L123=Green, Dichoric Filter

L124=Daylight Blue, Dichoric Filter

L125=Blue, Dichoric Filter

L127=Cosmetic (2700K), Dichoric Filter

L131=Amber, Gel Filter

L100 lenses - optical lenses

L110N=Diffuse Sandblasted Lens: Provides an even beam spread - especially useful in wall washing.

L111=Soft Focus Lens: Smooths irregular beam pattern while maintaining high controlled illumination levels and beam angles.

L113=Prismatic Spread Lens: Provides a symmetrical broadening of lamp beam. Suitable when a wide, uniform light distribution is required.

L115=Linear Spread Lens: Fans out the beam 55° (27-1/2° to each side) to produce a wide rectangular pattern.

L100MB=Black finished metal hexagonal-cell louver - controls light spill while retaining lamp optics.

Notes

(9) WTA = WaveLinX wireless sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with 0-10V only.

(13) WTK = WaveLinX Lite tile mount sensor kit for daylight dimming, PIR motion sensing, use with D010 only (Refer to WaveLinX Lite system specifications)

(14) Refer to system specifications for additional information, features and benefits. Order either factory installed option or accessory, use with 0-10V driver.

Product Specifications

Lower Reflector

- Painted die cast aluminum or anodized aluminum lower reflector providing superior lumen output with minimal source brightness.
- Flat cut cone allows for full output and tilt range. Pinhole includes black oculus to control glare.
- Anodized reflectors are offered in all Portfolio Alzak® finishes.
- Plaster lathing ring accessory offered for flush reflector transition.

Trim Retention

- Reflector is retained with pressure springs holding the flange tight to the finished ceiling surface.

Housing

- Steel housing and collar painted matte black to eliminate stray light.
- Housing is top accessible.
- Collar adjusts vertically to accommodate 1/2" to 7/8" thick ceilings and locks in position with (4) screws.
- Extended depth collar accessory for 7/8" to 1.25" ceiling thickness.
- Integral gun sights facilitate the use of guide strings or laser lines.
- Shipped with overspray protector installed.

Adjustment Mechanism

- Mechanism allows smooth 365° rotation and lockable 45° tilt adjustment and locks in position with 1/4" Phillips hex driver.
- Aiming scale enables consistent setting across multiple fixtures.

Optic

- Interchangeable optic in 5° increments from 15°-70° provides smooth beam without color separation.
- Media holder fits onto optic holder and holds up to two lens media.

Universal Mounting Bracket

- Accepts 1/2" EMT, C Channel, Tbar fasteners and hanger bars.

Junction Box

- (4) 1/2" trade size pry outs positioned to allow straight conduit runs.
- Listed for (4) #12AWG (two in, two out) 90°C conductors and feed thru branch wiring for top access units (with top access units only).
- Lever connectors for simple push in wiring.

Thermal

- Forged aluminum heat sink conducts heat away from the LED COB for optimal performance and long life.

LED

- Chip on board with a multitude of highly efficient white LED's, combined with TIR optic produces an 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.
- Available in 80, 90 or 97 CRI. D2W™ - dim-to-warm shifts CCT from 3000K to 1850K as fixture dims mimicking halogen sources.

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 (standard 0-10V driver and 0-10V/ leading edge can be serviced from above or through the aperture others require above ceiling access).
- 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 - RealTime 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 protected damp locations with open trims and wet location with lensed trims.
- EMI/RFI emissions per FCC 47CFR Part 18 Class B consumer limits.
- IC-rated and air tight with lensed trims, 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.
- Can be used for State of California Title 24 high efficacy LED compliance under JA8, reference Modernized Appliance Efficiency Database System (MAEDBS) for 2016 JA8 High Efficacy Lighting
- ENERGY STAR® certified, reference certified light fixtures database

Warranty

- 5 year warranty

Energy Data

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

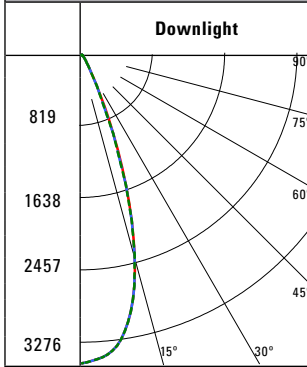
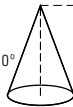
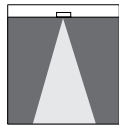
500 Lumen D010		1000 Lumen D010	
Input Power: 7.4W	THD: <14.4%	Input Power: 11W	THD: <13.8%
120V Input Current: 0.06A	277V Input Current: 0.03A	120V Input Current: 0.086A	277V Input Current: 0.042A

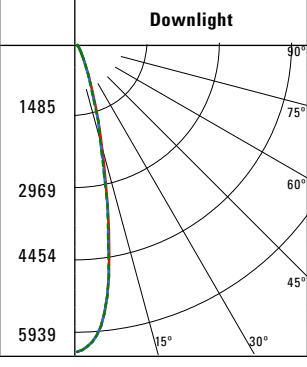
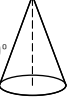
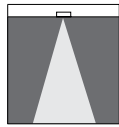
1500 Lumen D010		2000 Lumen D010	
Input Power: 15.1W	THD: <13.0%	Input Power: 21.2W	THD: <8.6%
120V Input Current: 0.13A	277V Input Current: 0.06A	120V Input Current: 0.18A	277V Input Current: 0.081A

Lumens	120V		277V	
	Inrush (A)	Duration (ms)	Inrush (A)	Duration (ms)
500 Lumen D010	0.64	0.05	1.4	0.04
1000 Lumen D010	1.02	0.041	2.18	0.021
1500 Lumen D010	1.02	1.02	2.24	0.064
2000 Lumen D010	1.02	0.077	2.43	0.027

Photometric Data

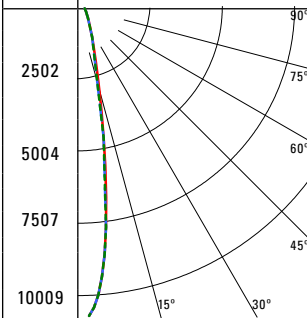
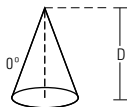

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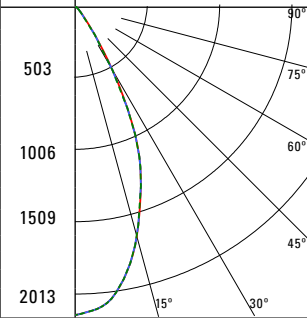
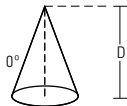
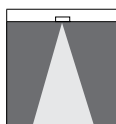
FLOOD		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT				CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE																																																																														
Test Number	G2-1811-033-3			 <table><tr><th>D</th><th>FC</th><th>L</th><th>W</th></tr><tr><td>4'</td><td>205</td><td>2.4</td><td>2.4</td></tr><tr><td>7'</td><td>66.9</td><td>4.2</td><td>4.2</td></tr><tr><td>9'</td><td>40.5</td><td>5.4</td><td>5.4</td></tr><tr><td>13'</td><td>19.4</td><td>7.8</td><td>7.8</td></tr><tr><td>16'</td><td>12.8</td><td>9.6</td><td>9.6</td></tr></table>				D	FC	L	W	4'	205	2.4	2.4	7'	66.9	4.2	4.2	9'	40.5	5.4	5.4	13'	19.4	7.8	7.8	16'	12.8	9.6	9.6	<table><tr><th>Degrees Vertical</th><th>Candela</th></tr><tr><td>0</td><td>3280</td></tr><tr><td>5</td><td>3198</td></tr><tr><td>15</td><td>2208</td></tr><tr><td>25</td><td>456</td></tr><tr><td>35</td><td>57</td></tr><tr><td>45</td><td>11</td></tr><tr><td>55</td><td>3</td></tr><tr><td>65</td><td>0</td></tr><tr><td>75</td><td>0</td></tr><tr><td>85</td><td>0</td></tr><tr><td>90</td><td>0</td></tr></table>	Degrees Vertical	Candela	0	3280	5	3198	15	2208	25	456	35	57	45	11	55	3	65	0	75	0	85	0	90	0	<table><tr><th>Zone</th><th>Lumens</th><th>% Fixture</th></tr><tr><td>0-30</td><td>1124</td><td>95.5</td></tr><tr><td>0-40</td><td>1164</td><td>98.9</td></tr><tr><td>0-60</td><td>1176</td><td>99.9</td></tr><tr><td>0-90</td><td>1177</td><td>100</td></tr><tr><td>90-180</td><td>0</td><td>0</td></tr><tr><td>0-180</td><td>1177</td><td>100</td></tr></table>	Zone	Lumens	% Fixture	0-30	1124	95.5	0-40	1164	98.9	0-60	1176	99.9	0-90	1177	100	90-180	0	0	0-180	1177	100	<table><tr><th>Average Candela Degrees</th><th>Average 0° Luminance</th></tr><tr><td>45</td><td>7536</td></tr><tr><td>55</td><td>2322</td></tr><tr><td>65</td><td>584</td></tr><tr><td>75</td><td>0</td></tr><tr><td>85</td><td>0</td></tr></table>	Average Candela Degrees	Average 0° Luminance	45	7536	55	2322	65	584	75	0	85	0
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NARROW FLOOD		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT				CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE					
Test Number	G2-1811-033-2							Degrees Vertical	Candela	Zone	Lumens	% Fixture	Average Candela Degrees	Average 0° Luminance				
Housing	LDA2B108035D010											0	5943	0-30	1104	96.4	45	6001
Module	EU2B10NFL258035											5	5460	0-40	1135	99.1		
Trim	2LBD1H											15	1759	0-60	1144	99.9		
Lumens	1145											25	277	0-90	1145	100		
Efficacy	114.5 Lm/W																	
SC	0.39																	
																		

Photometric Data

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SPOT		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT				CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE	
Test Number	G2-1811-033-1							Degrees Vertical	Candela	Zone	Lumens	% Fixture	Average Candela Degrees	Average 0° Luminance
Housing	LDA2B108035D010							0	10013	0-30	1061	97.1	45	4117
Module	EU2B10SP158035							5	7952	0-40	1085	99.2		
Trim	2LBD1H							15	1157	0-60	1093	99.9	55	1892
Lumens	1093							25	201	0-90	1093	100	65	584
Efficacy	109.3 Lm/W							35	34	90-180	0	0	75	0
SC	0.28							45	6	0-180	1093	100	85	0
								55	2					
								65	0					
								75	0					
								85	0					
								90	0					

WIDE FLOOD		CANDLEPOWER DISTRIBUTION		CONE OF LIGHT				CANDELA TABLE		ZONAL LUMEN SUMMARY			LUMINANCE	
Test Number	G2-1811-033-5							Degrees Vertical	Candela	Zone	Lumens	% Fixture	Average Candela Degrees	Average 0° Luminance
Housing	LDA2B108035D010							0	2017	0-30	1016	87.2	45	15839
Module	EU2B10WFL558035							5	1968	0-40	1140	97.9		
Trim	2LBD1H							15	1549	0-60	1164	99.9	55	3699
Lumens	1165							25	920	0-90	1165	100	65	584
Efficacy	116.5 Lm/W							35	168	90-180	0	0	75	0
SC	0.74							45	23	0-180	1165	100	85	0
								55	4					
								65	0					
								75	0					
								85	0					
								90	0					

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



Device Security



Manual Dimmer



Occupancy Sensor



Daylighting Control



Manually Switched ON/OFF



Tuning Control

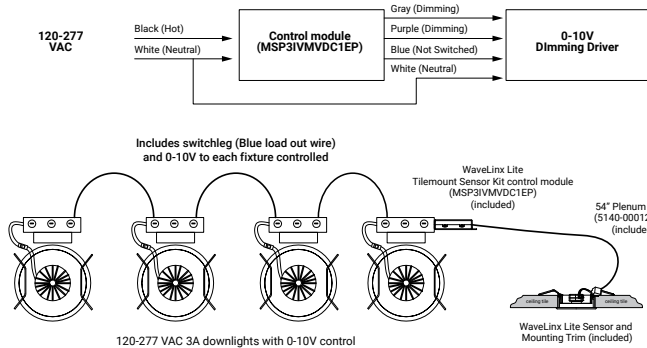


Lumen Maintenance Control

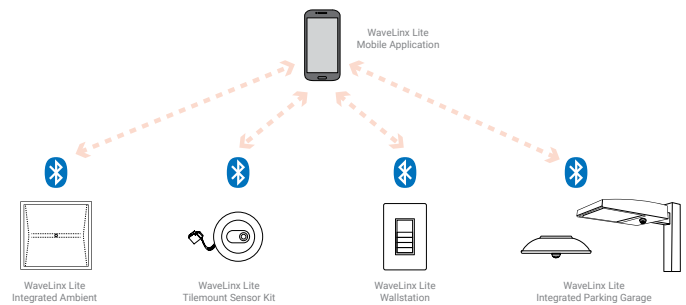


Scenes

WaveLinX Lite WTK Tilemount Wiring Diagram



WaveLinX Lite Bluetooth Enabled System



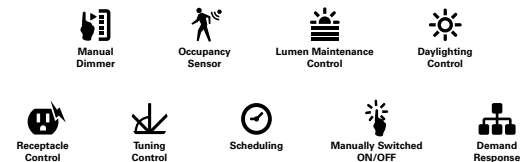
WaveLinX Wireless – WTA Tilemount Sensor



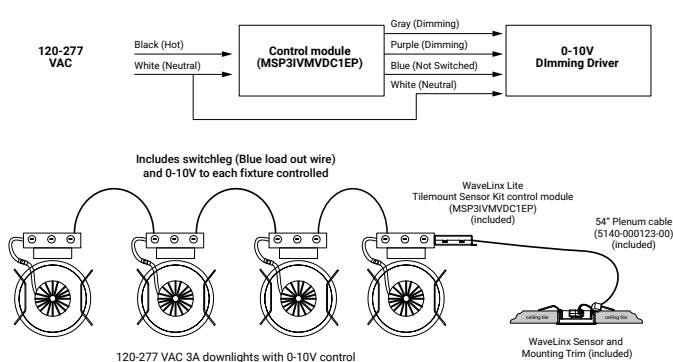
- WaveLinX Wireless functionality configures zones and customizes settings from one secure mobile app
- Automatic code commissioning that meets the strictest codes
- Fixtures and sensors integrate with Wireless Area Controller, Wall Stations, and Control Devices
- Stand-Alone Offices or Entire Building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



WaveLinX mobile app settings



WaveLinX Lite WTA Tilemount Wiring Diagram



WaveLinX Wireless Trellix Building Management Integration

