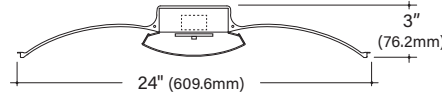




ADEO AD24

2x4 Architectural Recessed



Key Features

- Formed 22 gauge cold rolled steel housing, 20 gauge available upon request
- Highly reflective die-formed white painted reflector
- Wiring access available on top of housing
- LED offered with a 5-year limited warranty. Covers LED, driver and fixture
- UL and cUL Listed, LO, MO, and HO lumen packages are IC Rated
- Approved for dry/damp location unless otherwise noted
- Maximum fixture weight is 28 lbs - Surface Mount Box adds 10 lbs
- Room-Side Maintenance for LED system
- Indigo-Clean available, see Indigo-Clean specification sheets for details



Example Part #: AD24-A-830HO-G1-U-FSD-1-0-W

AD24 - SHIELDING - CRI, CCT & OUTPUT - MOUNTING - VOLTAGE - DRIVER - CIRCUITING - BATTERY & EMERGENCY - FINISH - FIXTURE OPTIONS - CONTROLS

SHIELDING	SOURCE ^{Q_S 1,2}	MOUNTING	VOLTAGE ³
A - Satine Lens ^{Q_S} R - Round Perf L - Linear Perf <i>Shielding pg. 2</i>	_27_ - 2700K _30_ - 3000K _35_ - 3500K _40_ - 4000K TW - 2CH Tunable White (2700-6500K, 90CRI) CL - Custom Lumens CW - Custom Watts MOD - Mod options available <i>Lumen Output pg. 2</i>	G1 - 15/16" Grid ^{Q_S} G9 - 9/16" Grid ^{Q_S} GS - Screw Slot Grid ^{Q_S} FL - Flanged S - Surface Mount <i>Mounting pg. 3</i>	U - Universal (120 thru 277V) ^{Q_S} 1 - 120V ^{Q_S} 2 - 277V ^{Q_S} 3 - 347V <i>Voltage pg. 3</i>

DRIVER	CIRCUITING ⁴	BATTERY & EMERGENCY	FINISH
FSD - Factory Select Driver (1%, 0-10v) ^{Q_S} PL2 - Advance Xitanium (1%, 0-10v) OL2 - eldoLED Optotronic (1%, 0-10v) OL4 - eldoLED Optotronic 347v (1%, 0-10v) EE1 - eldoLED ECODrive (1%, 0-10v) ES1 - eldoLED SOLOdrive (0.1%, 0-10v) LH1 - Lutron Hi-lume (1%, EcoSystem) PS1 - Advance Xitanium (50%/100%) MOD - Mod options available <i>Driver pg. 4</i>	1 - Single Circuit ^{Q_S} E - Emergency ^{Q_S} <i>(entire fixture)</i> N - Night Light ^{Q_S} <i>(entire fixture)</i> <i>Circuiting pg. 4</i>	0 - None ^{Q_S} FBS - Factory Select Battery ^{Q_S} FSG - Factory Select ALCR GI - Iota ETS DR GB - Bodine GTD 1ILL - Iota 10W 1PLL - Bodine 10W <i>Battery and Emergency pg. 4</i>	W - White ^{Q_S} MOD - Mod options available <i>Finish pg. 5</i>

FIXTURE OPTIONS ⁵	CONTROLS
QS - QuickShip ^{Q_S} TW - Through-wiring CP - Chicago Plenum ^{Q_S} AM - Antimicrobial Paint AR - Air Return FW6 - 6' Flex Whip ^{Q_S} GLR - Fast Blow Fusing ^{Q_S} DSP - Customer Supplied Battery/Driver/Sensor GMF - Slow Blow Fusing BA - Buy American Act Compliant MOD - Mod options available <i>Fixture Options pg. 5</i>	MOD - Mod options available <i>Controls pg. 6</i>

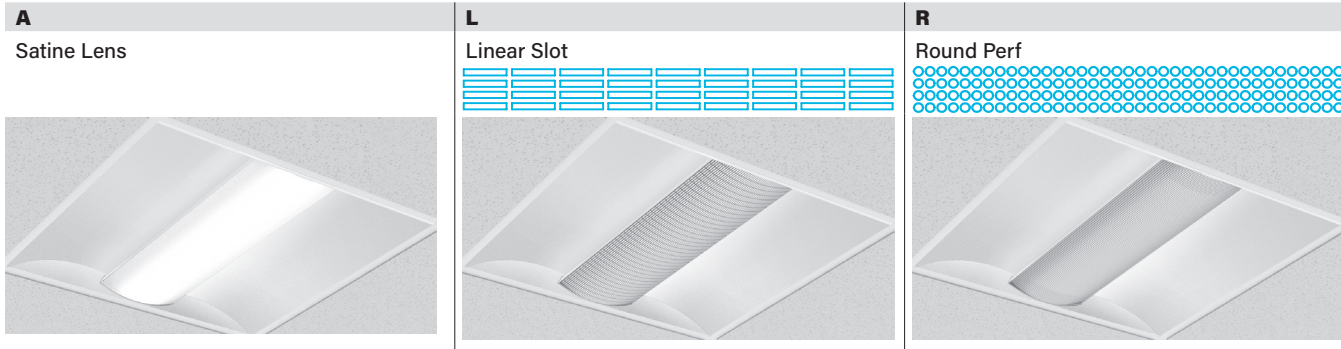
¹When specifying SOURCE the first _ is for specifying either 8 - 80CRI, 9 - 90CRI. The ending _ are for specifying output, example 835HO - 80CRI, 3500K High Output. See output charts for more information. ²When specifying Tunable White, use **TW** and then specify output, example TWHO - Tunable White 90CRI, High Output 2700-6500K. See output charts for more information. Tunable White option requires driver option **FSD** which provides separate 0-10v control leads for Intensity and CCT. ³Tunable White (**TW**) option only available with Universal (**U**), 120V (**1**) or 277V (**2**) options. ⁴Consult factory for Emergency (**E**) or Night Light (**N**) options with Tunable White option. ⁵If specifying QuickShip, **QS** must be used in fixture options section of part number to qualify.

Specifications and dimensions subject to change without notice. Specification sheets that appear on pinnacle-ltg.com are the most recent version and supersede all other previously printed or electronic versions.



Shielding

- Captive and hinged center lens
- Co-extruded acrylic lens with ribbed side channels evenly illuminates the side reflector giving the appearance of a fully lensed luminaire
- Highly reflective die-formed white painted reflector
- Wiring access available on top of housing



Output

- Specify either 80 or 90 CRI for White light LED
- Longer lead-time may apply for 90 CRI or Tunable White option. Consult factory
- Tunable White option requires driver option FSD which provides separate 0-10v control
- leads for Intensity and CCT.
- Tunable White lumen packages shown at 4000K CCT setpoint
- 90 CRI = R9≥50

Custom Output- Lumens OR Wattage

CL _____	Specify CRI, CCT and desired lumens (i.e. CL8351200)	Specify lumens between standard offering listed below. Lumens are specified per color temp
CW _____	Specify CRI, CCT and desired wattage (i.e. CW94015)	Specify watts between standard offering listed below
CLTW _____	Specify desired lumens for Tunable White (i.e. CLTW3200)	Specify lumens between Tunable White offering listed below. Lumens are specified at 4000K CCT setpoint.

80 CRI

	Color	Output	Watts	Shielding		L		R	
				A Satine Lens		Linear Slot		Round Perf	
				Lumens	LPW	Lumens	LPW	Lumens	LPW
830LO	3000K	Low	24.2	2922	120.7	1736	71.7	1484	61.3
830MO		Middle	32.1	3862	120.3	2294	71.5	1962	61.1
830HO		High	40.7	4801	118.0	2852	70.1	2439	59.9
830VHO		Very High	63.7	6874	107.9	4083	64.1	3492	54.8
835LO	3500K	Low	24.2	3003	124.1	1784	73.7	1526	63.0
835MO		Middle	32.1	3969	123.6	2358	73.4	2016	62.8
835HO		High	40.7	4934	121.2	2931	72.0	2506	61.6
835VHO		Very High	63.7	7065	110.9	4197	65.9	3589	56.3
840LO	4000K	Low	24.2	3165	130.8	1880	77.7	1608	66.4
840MO		Middle	32.1	4195	130.7	2492	77.6	2131	66.4
840HO		High	40.7	5220	128.3	3101	76.2	2652	65.2
840VHO		Very High	63.7	7541	118.4	4479	70.3	3831	60.1

90 CRI

927LO	2700K	Low	24.2	2435	100.6	1447	59.8	1237	51.1
927MO		Middle	32.1	3219	100.3	1912	59.6	1635	50.9
927HO		High	40.7	4001	98.3	2377	58.4	2033	49.9
927VHO		Very High	63.7	5730	89.9	3403	53.4	2911	45.7
930LO	3000K	Low	24.2	2692	111.2	1599	66.1	1368	56.5
930MO		Middle	32.1	3557	110.8	2113	65.8	1807	56.3
930HO		High	40.7	4422	108.6	2627	64.5	2246	55.2
930VHO		Very High	63.7	6332	99.4	3761	59.0	3217	50.5
935LO	3500K	Low	24.2	2700	111.6	1604	66.3	1372	56.7
935MO		Middle	32.1	3569	111.2	2120	66.0	1813	56.5
935HO		High	40.7	4436	109.0	2635	64.7	2253	55.4
935VHO		Very High	63.7	6352	99.7	3773	59.2	3227	50.7
940LO	4000K	Low	24.2	2824	116.7	1677	69.3	1435	59.3
940MO		Middle	32.1	3742	116.6	2223	69.2	1901	59.2
940HO		High	40.7	4657	114.4	2766	68.0	2366	58.1
940VHO		Very High	63.7	6727	105.6	3996	62.7	3417	53.6

2 CH Tunable White (2700-6500K, 90CRI)

TWLO	2700 - 6500K	Low	29.1	3100	106.6	1851	63.7	1583	54.4
TWMO		Middle	39.2	4100	104.7	2451	62.6	2096	53.5
TWHO		High	48.8	5100	104.6	3046	62.4	2605	53.4
TWVHO		Very High	82.7	7400	89.5	4422	53.5	3782	45.7

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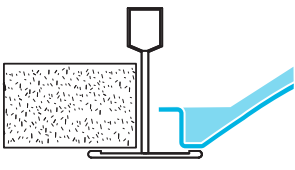
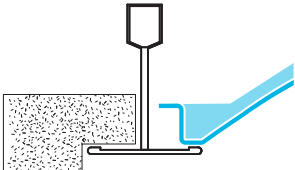
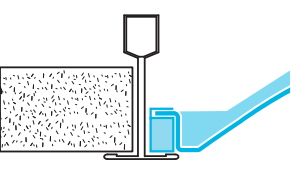
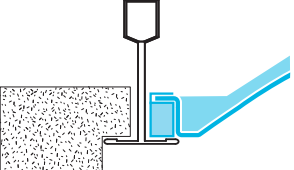
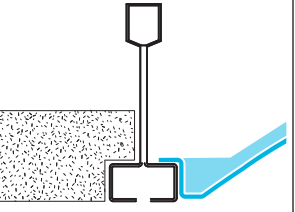
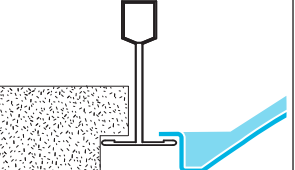
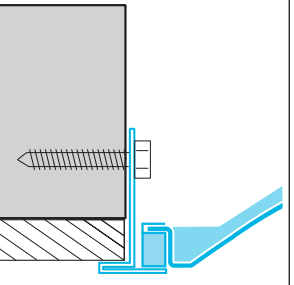
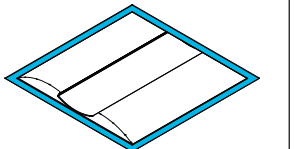
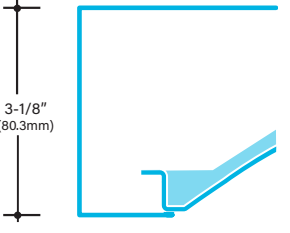
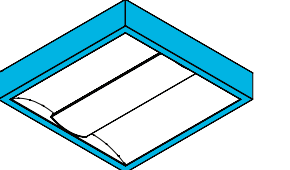
Direct Source: MOD Options

- Specify **MOD** in the part number for any of the below options
- All RGB_ Source Options will require specific driver and control
- Consult factory for **MOD** specification details, pricing, and lead-time information

		Required Driver	Required Control
MOD	Color Changing RGB LED	EC1/EC4	DMX
	Color Changing RGB-W LED	EC1/EC4	DMX
	Dynamic BIOS		

Mounting

- Designed to install into acoustical grid and inaccessible ceilings
- Grid retention clips integral to housing and require mechanical attachment
- Tie off fixture to structure with retention wires
- Maximum fixture weight is 28 lbs - Surface Mount Box adds 10 lbs
- Refer to installation instructions during installation at the job site
- Approved for dry/damp location unless otherwise noted

G1	G9	GS	FL	S
1" Grid Mount <i>Works with 15/16" grid ceiling types. See profile for fixture position in relation to ceiling grid and tile.</i>	9/16" Grid Mount <i>Works with 9/16" grid ceiling type. For tegular tile installations, fixture position will not be flush to the bottom of the tile. See tegular tile profile image below.</i>	Screw Slot Mounting <i>Works with screw slot, bolt slot and 9/16" grid ceiling types. For 9/16" installations with tegular tile, fixture position will be flush to the bottom of the tile. See bottom profile image of 9/16" with tegular tile. Consult factory for detailed installation instructions.</i>	Flange Kit <i>A separate flange kit is supplied for installations into inaccessible or drywall applications. Flange kit ships from factory uninstalled separately from fixture. Consult factory for detailed installation instructions.</i>	Surface Mount <i>Utilize for hard lid ceiling applications. The 20 gauge steel frame easily secures to ceiling.</i>
 <p>Standard Tile</p>  <p>Tegular Tile</p>	 <p>Standard Tile</p>  <p>Tegular Tile</p>	 <p>Tegular Tile</p>  <p>Tegular Tile</p>	 	 <p>3-1/8" (80.3mm)</p> 

Voltage

- Some ADEO configurations will not accommodate all voltage options; consult with factory
- 347 volt not available with Tunable White (TW) option

U	Universal
1	120 volt
2	277 volt
3	347 volt



Driver

- Standard Driver Option = FSD
- Driver Lifetime: 50,000 hours at 25°C ambient operating conditions
- For more Driver options, see Pinnacle Resource Guide
- Some ADEO configurations will not accommodate all driver options; consult with factory

0-10V Drivers

FSD	Factory Select Driver 1%, 0-10v
PL2	Advance Xitanium 1%, 0-10v
PL4	Advance Xitanium 347v 1%, 0-10v, requires 347v
OL2	eldoLED Optotronic, 1%, 0-10v
OL4	eldoLED Optotronic 347v, 1% 0-10v (requires 347v)
EE1	eldoLED ECOdrive 1%, 0-10v Logarithmic
EE2	eldoLED ECOdrive 1%, 0-10v Linear
ES1	eldoLED SOLOdrive 0-10v, 0.1% Logarithmic
ES2	eldoLED SOLOdrive 0-10v, 0% Linear
OL5	eldoLED Optotronic 1%, 0-10v, AUX
PL5	Advance Xitanium 1%, 0-10v, AUX

DALI Drivers

EE3	eldoLED ECOdrive .1%, DALI (logarithmic)
ES3	eldoLED SOLOdrive .1%, DALI (logarithmic)
OD1	eldoLED Optotronic 1%, DEXAL
OD2	eldoLED Optotronic 1%, DALI 2 Channel

Lutron Drivers

LH1	Lutron Hi-lume Soft-on, Fade-to-black 1%, EcoSystem, LDE1
------------	---

Alternate Drivers

PS1	Signify Advance Xitanium Step Dimming 50%/100%
PR1	Philips Advance Xitanium SR, requires EASYS, VDO or VRF
OD1	eldoLED Optotronic 1%, DEXAL
EH1	ELV 120v only, 0-10v universal

Drivers: MOD Options

- Specify **MOD** in the part number for any of the below options
- Consult factory for **MOD** specification details, pricing, and lead-time information

MOD	Power Over Ethernet
------------	---------------------

Circuiting

- Select fixture circuiting from options below
- Some ADEO configurations will not accommodate all circuiting options; consult with factory
- Consult factory for Emergency (E) or Night Light (N) circuit with Tunable White (TW) option

1	Single Circuit
E	Emergency Circuit only
N	Night Light Circuit only

Battery & Emergency

- Select battery or emergency options if required
- Battery duration is 90 minutes
- For Tunable White (TW) option, battery with illuminate 6500K LED unless otherwise specified.
- Test button is integral to fixture
- For more Battery options, see Pinnacle Resource Guide
- Consult factory for Emergency Control Devices with Tunable White (TW) option

0	No Battery
FSB	Factory Select Battery (10w option)
FSBST	Factory Select Battery (10w, Self Testing)
FSG	Factory Select ALCR Emergency Control Device, UNV
GI	Iota ETS-DR, Emergency Control Device, UNV
GB	Bodine GTD, Generator Transfer Device, 120v or 277v
1ILL	Iota 10w Integral Lithium, Self Testing
1PLL	Bodine 10w Integral Lithium, Self Testing

Battery & Emergency Ordering Examples

- Single circuit, 10w integral battery Ordering Code: 1-1FSB
- Emergency circuit only, 10w integral battery Ordering Code: E-1FSB

For Approximate Battery Lumen Output

- Multiply battery wattage X fixture LPW shown on Lumen Table
- 10 (watts) x 92.3 (LPW) = 923 battery lumen output

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Finish

- Powder-coat white painted finish on exposed trim

W White

Finish: MOD Options

- Specify **MOD** in the part number for any of the below options
- Consult factory for **MOD** specification details, pricing, and lead-time information

MOD	Wood Grain
	Metallic Silver
	Textured Black
	Bronze
	Graphite
	Custom Color
	Natural

Fixture Options

- Additional options to enhance the fixture and finish of the product

QS	Quick Ship
BA	Buy American Act Complaint
TW	Through-Wiring
CP	Chicago Plenum
AM	Antimicrobial Paint
AR	Air Return
FW6	Flex Whip 6'
GLR	Internal Fast Blow Fuse
DSP	Customer Supplied Battery/Driver/Sensor
GMF	Internal Slow Blow Fuse

Fixture Options: MOD Options

- Specify **MOD** in the part number for any of the below options
- Consult factory for **MOD** specification details, pricing, and lead-time information

MOD	Remote Driver
	End Power Feed

Quick Ship

	CRI, CCT & Output	Mounting	Voltage	Driver	Circuiting	Battery	Finish	Options
10-Day								
A	80 CRI, All color temperatures, all lumen packages <i>See pg 4&5</i>	G1 1" Grid G9 9/16" Grid GS Screw Slot	U Universal 1 120V 2 277V	FSD Factory Select Driver (1%, 0-10v)	1 Single E Emergency N Night Light	0 None FSB Factory Select Battery	W White	CP Chicago Plenum FW6 Flex Whip 6' 18-gauge GLR Internal Fast-Blow Fuse

Consult Factory for projects that are larger than 200 units.

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Controls

- Pinnacle is able to accommodate different control solutions from different manufacturers. Consult Factory for more information.

Controls: MOD Options

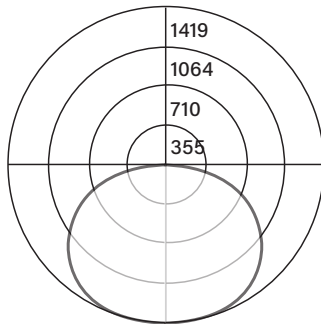
- Specify **MOD** in the part number for any of the below options
- Control** Options may require specific driver. Refer to the chart below
- Consult factory for **MOD** specification details, pricing, and lead-time information

MOD	Required Driver	
	Encelium Sensilum	OD1, OL5
	Enlighted (Wireless) - ENLI	Any 0-10v
	Enlighted (Wireless) - ENLC	Any 0-10v

Photometrics

Satine Lens

Test #	ITL88956
Catalog #	AD24A-840MO
Lumens	4195 lm
Watts	32.1 W
Efficacy	131 LPW



Candela Distribution

Vert Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1419	1419	1419	1419	1419
5	1413	1412	1413	1413	1413
10	1393	1390	1395	1396	1394
15	1360	1354	1364	1367	1364
20	1313	1304	1319	1324	1323
25	1251	1244	1262	1270	1271
30	1180	1175	1196	1207	1209
35	1098	1097	1121	1134	1138
40	1009	1011	1037	1054	1060
45	912	919	947	969	974
50	810	820	853	876	884
55	705	716	752	779	785
60	594	610	649	679	686
65	481	501	542	576	585
70	364	391	436	474	488
75	253	283	332	373	389
80	150	182	232	264	276
85	62	90	114	134	142
90	0	0	0	0	0

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1838	1908	1963
55	1751	1868	1950
65	1622	1827	1972
75	1393	1828	2141
85	1014	1864	2321

For all available IES files, please visit our website at pinnacle-ltg.com. Photometry testing in accordance to IESNA-LM-79-08 at an NVLAP accredited testing laboratory. Testing conducted at 25°C ambient conditions

Applications & Certificates

Construction: Formed 22 gauge cold rolled steel housing. Highly reflective die-formed white painted reflector. Wiring access available on top of housing. Captive and hinged center lens swings open for room-side maintenance of lens, driver and LED boards.

Shielding: Co-extruded acrylic lens with ribbed side channels evenly illuminates the side reflector giving the appearance of a fully luminous aperture. Available with standard satine lens or optional clear lens with linear slot or round perf insert.

Mounting: Designed to install into acoustical grid and inaccessible ceilings. Specify G1, G9 or GS for acoustical grid ceiling. Specify FL for inaccessible ceilings. Grid retention clips integral to housing and require mechanical attachment. Tie off fixture to structure with retention wires. Maximum fixture weight is 28 lbs - Surface Mount box adds 10 lbs

White LED: 25°C test environment. Lumen output/wattage has a margin of +/- 5%. Luminaire configurations tested in accordance with IES LM-79. Diodes tested in accordance with IES LM-80. Lifetime calculated using IES TM-21. Minimum lifetime greater than 60,000 hours. L70 = 134,700 hours and L90 = 40,100 hours. MacAdam 3-Step Ellipses. Not all products are lighting facts listed. For all available IES files, please visit our website at pinnacle-ltg.com.

Tunable White LED: 2 channel solution with 2700K and 6500K LED, 90CRI only, R9 >50. Lumen packages available shown at 4000K CCT setpoint, lumen output varies based on CCT. Use multipliers for other CCT; 2700K = .91 3000K=.93 3500K=.97 4000K=1.0 5000K=1.044 6500K=1.078.

CRI, CCT & Output: Four lumen packages available. Low (LO), Medium (MO), High (HO) and Very High (VHO). Custom outputs are available. Specify custom lumens or watts between standard offering listed on Color Temperature & Output page. 80 CRI is available for 3000K, 3500K, and 4000K. 90 CRI is available for 2700K, 3000K, 3500K, and 4000K. 90 CRI = R9≥50.

Voltage: Universal (U), 120 volt (1), 277 volt (2) and 347 volt (3) options available. Must specify OL4 in Driver section when 347 volt (3) is selected. Some ADEO configurations will not accommodate all voltage options; consult with factory.

Driver: Standard Driver Option is Advance Xitanium 0-10V, 1% = PL2. Electronic driver, Power factor is >0.9 with a THD <20%. Driver Lifetime: 50,000 hours at 25°C ambient operating conditions. Ambient operating range: -20°F/-30°C to 98°F/35°C. For more driver options, see Pinnacle Resource Guide. Some ADEO configurations will not accommodate all driver options.

Circuiting: Select from single circuit (1), Emergency circuit (E) or Night Light circuit (N). Some ADEO configurations will not accommodate all circuiting options, consult with factory.

Battery & Emergency: Select battery or emergency options if required. If battery or emergency option is not required, enter 0. Battery duration is 90 minutes as standard. Test button is integral to fixture. For more Battery options, see Pinnacle Resource Guide.

Finish: Powder-coat white painted finish on exposed trim.

Controls: Pinnacle is able to accommodate different control solutions from different manufacturers. Consult Factory for more information.

Labels: UL and cUL 1598 listed. LO, MO, HO and VHO lumen packages are IC Rated, approved for dry/damp location unless otherwise noted.

Fixture Weight: 28 lbs maximum - Surface mount box adds 10 lbs.

Warranty: ADEO LED offered with a 5-year limited warranty. Covers LED, driver and fixture.