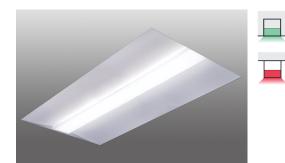
# PINNA CLE

Project Name

Date \_

Туре



**LUCEN** LU24 2x4 Architectural Recessed



#### **Key Features**

- Pre-painted formed 22 gauge cold rolled steel housing
- Highly reflective die-formed white painted reflector
- Wiring access available on both ends and top of housing
- LED offered with a 5-year limited warranty. Covers LED, driver and fixture
- UL and cUL Listed, LO, MO, aend HO lumen packages are IC Rated
- Pre-painted fixtures are to be used in dry locations only
- For damp location, must specify Paint After Fabrication (PAF) in the Options section of the luminaire specification
- Maximum fixture weight is 25 lbs Surface Mount Box adds 10 lbs
- Room-Side Maintenance for LED system
- Buy American Act compliant
- Indigo-Clean available, see Indigo-Clean specification sheets for details

Example Part #: LU24-A-830HO-G1-U-OL2-1-0-W

-			-				
HIELDING	SOURCE QS_1	MOUNTING	VOLTAGE				
A - Satine Lens Qୁ V - White Rails Qୁ S - Silver Rails Qୁ <i>hielding pg.</i> 2	<b>_27</b> 2700K <b>_30</b> 3000K <b>_35</b> 3500K <b>_40</b> 4000K <b>CL</b> Custom Lumens <b>CW</b> Custom Watts <b>MOD</b> - Mod options available <i>Lumen Output pg. 2</i>	<b>G1</b> - 15/16" Grid $Q$ <b>G9</b> - 9/16" Grid $Q$ <b>GS</b> - Screw Slot Grid $Q$ <b>FL</b> - Flanged <b>S</b> - Surface Mount <i>Mounting pg.</i> 3	<b>U</b> - Universal (120 thru 277V) QS, <b>1</b> - 120V QS, <b>2</b> - 277V QS, <b>3</b> - 347V <i>Voltage pg.</i> 3				
	_						
DRIVER	CIRCUITING	BATTERY & EMERGENCY	FINISH				
<b>FSD</b> - Factory Select Driver (1%, 0-10 <i>v</i> ) $Q$ <b>PL2</b> - Advance Xitanium (1%, 0-10 <i>v</i> ) $Q$ <b>OL4</b> - Osram 347 <i>v</i> (1%, 0-10 <i>v</i> ) <b>EE1</b> - eldoLED ECOdrive (1%, 0-10 <i>v</i> ) <b>ES1</b> - eldoLED ECOdrive (1%, 0-10 <i>v</i> ) <b>LH1</b> - Lutron Hi-lume (1%, EcoSystem) <b>PR1</b> - Advance Xitanium SR <b>OL2</b> - Osram (1%, 0-10 <i>v</i> , standard) $Q$ <b>MOD</b> - Mod options available Driver pg. 4	<ul> <li>1 - Single Circuit QS,</li> <li>E - Emergency (entire fixture) QS,</li> <li>N - Night Light (entire fixture) QS,</li> <li>Circuiting pg. 4</li> </ul>	<b>0</b> - None $Q$ <b>1P</b> - Bodine 10W $Q$ <b>1IC</b> - Iota 10W, CEC Listed $Q$ <b>1G</b> - Bodine GTD <b>FSG</b> - Factory Select ALCR <b>GI</b> - Iota ETS DR <b>GB</b> - Bodine GTD Battery and Emergency pg. 4	W - White QS₊ MOD - Mod options available <i>Finish pg.</i> 5				
FIXTURE OPTIONS <sup>2</sup> QS - QuickShip $Q$ TW - Through-wiring CP - Chicago Plenum AM - Antimicrobial Paint FW6 - 6' Flex Whip $Q$ GLR - Fast Blow Fusing $Q$ GLR - Fast Blow Fusing PAF - Slow Blow Fusing PAF - Paint after fabrication MOD - Mod options available Fixture Options pg. 5	CONTROLS <sup>3</sup> DLMFC - Wattstopper DLM (wired) DLMFS - Wattstopper LLLC (wireless) EASYS - Philips EasySense (wireless) SNSLM - Encelium Sensilum (wireless) WVLX - Eaton WaveLinx (wireless) VDO - Lutron Vive Sensor (wireless) VFF - Lutron Vive Connected (wireless) ENL - Enlighted, "C" Connected Lighting or "I ENL2 - Enlighted 2-Wire, "C" Connected Light MOD - Mod options available Controls pg. 6						

When specifying SOURCE the first \_ is for specifying either 8 - 80CRI, 9 - 90CRI or B - BIOS. The ending \_ are for specifying output, example HO - High Output. When specifying BIOS use B and then specify colo temperature, either 3500K or 4000K, and output, example B35HO - BIOS 3500K High Output. If specifying QS output is 80 CRI, all color temperatures, all lumen packages. Does not include BIOS or Tunable White. See output charts for more information. BIOS dynamic available, please contact factory for more information

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.

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# Shielding

- Single piece extruded diffuse lens with convex wings and articulated center spine
- Fully luminous housing with optimal glare control

80 CRI = R9≥19 and 90 CRI = R9≥61

Highly reflective white reflectors maintain uniform lens brightness



### Source

940MO

940HO

940VHO

4000K

4000K

4000K

Middle

Very High

High

32.2

40.8

63.9

3727

4611

6674

115.7

113.0

104.4

- Specify either 80 or 90 CRI
- Longer lead-time may apply for 90 CRI. Consult factory.

# **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 Specify CRI, CCT and desired wattage (i.e. CW94015) Specify watts between standard offering listed below CW

80 CRI									
	Color	Output	Watts	Shielding		w		s	
				Satine Lens V		White Trim		Silver Trim	
				Lumens	LPW	Lumens	LPW	Lumens	LPW
830LO	3000K	Low	24.3	2937	120.9	2650	109.0	2500	102.9
830MO	3000K	Middle	32.2	3888	120.7	3507	108.9	3309	102.8
830HO	3000K	High	40.8	4788	117.4	4319	105.9	4075	99.9
830VHO	3000K	Very High	63.9	6958	108.9	6276	98.2	5921	92.7
835LO	3500K	Low	24.3	3019	124.2	2723	112.1	2569	105.7
835MO	3500K	Middle	32.2	3996	124.1	3604	111.9	3401	105.6
835HO	3500K	High	40.8	4921	120.6	4439	108.8	4188	102.6
835VHO	3500K	Very High	63.9	7151	111.9	6450	100.9	6086	95.2
840LO	4000K	Low	24.3	3155	129.8	2846	117.1	2685	110.5
840MO	4000K	Middle	32.2	4178	129.8	3769	117.0	3555	110.4
840HO	4000K	High	40.8	5169	126.7	4662	114.3	4399	107.8
840VHO	4000K	Very High	63.9	7482	117.1	6749	105.6	6367	99.6
90 CRI									
927LO	2700K	Low	24.3	2448	100.8	2208	90.9	2084	85.7
927MO	2700K	Middle	32.2	3241	100.6	2923	90.8	2758	85.6
927HO	3500K	High	40.8	3991	97.8	3600	88.2	3396	83.2
927VHO	3500K	Very High	63.9	5799	90.8	5231	81.9	4935	77.2
930LO	3000K	Low	24.3	2706	111.4	2441	100.4	2303	94.8
930MO	3000K	Middle	32.2	3581	111.2	3230	100.3	3047	94.6
930HO	3000K	High	40.8	4410	108.1	3978	97.5	3753	92.0
930VHO	3000K	Very High	63.9	6409	100.3	5781	90.5	5454	85.4
935LO	3500K	Low	24.3	2715	111.7	2449	100.8	2310	95.1
935MO	3500K	Middle	32.2	3593	111.6	3241	100.6	3058	95.0
935HO	3500K	High	40.8	4424	108.4	3990	97.8	3765	92.3
935VHO	3500K	Very High	63.9	6429	100.6	5799	90.8	5471	85.6
940LO	4000K	Low	24.3	2815	115.8	2539	104.5	2396	98.6

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3362

4159

6020

104.4

101.9

94.2

3172

3924

5680

98.5

96.2

88.9



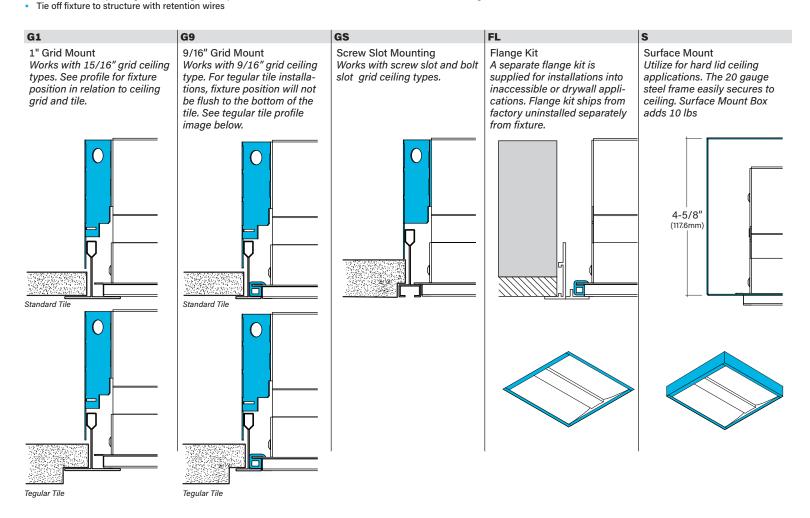
# **Direct Source: MOD Options**

- 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	<b>Required Control</b>
	Color Changing RGB LED	EC1/EC4	DMX
MOD	Color Changing RGB-W LED	EC1/EC4	DMX
MOD	2 Channel Tunable White		
	Dynamic BIOS		
MOD	2 Channel Tunable White		

# Mounting

- LUCEN is offered with a universal flange for all grid types. See below for fixture placement in relation to the tile for each grid type
- Grid retention clips integral to housing and require mechanical attachment
- Refer to installation instructions during installation at the jobsite
  - Approved for dry/damp location when PAF is specified
- Maximum fixture weight is 25lbs Surface Mount Box adds 10 lbs



# Voltage

Some LUCEN configurations will not accommodate all voltage options; consult with factory

U	Universal
1	120 volt
2	277 volt
3	347 volt

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consult with factory

Some LUCEN configurations will not accommodate all driver options;



## Driver

- Standard Driver Option = FSD
- Driver Lifetime: 50,000 hours at 25°C ambient operating conditions
- For more Driver options, see Pinnacle Resource Guide

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	Osram Optotronic, 1%, 0-10v						
OL4	Osram 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% Logarithmic						
ES2	eldoLED SOLOdrive 0-10v, 0% Linear						
OL5	Osram Optotronic 1%, 0-10v, AUX						
<b>DALI Drivers</b>							
OD1	Osram Optotronic 1%, DEXAL						
EE3	eldoLED SOLOdrive .1%, DALI (logarithmic)						
EE4	eldoLED SOLOdrive .1%, DALI (linear)						
<b>Lutron Drivers</b>	5						
LH1	Lutron Hi-lume Soft-on, Fade-to-black 1%, EcoSystem, LDE1						
<b>Alternate Driv</b>	iers						
PS1	Signify Advance Xitanium Step Dimming 50%/100%						
PR1	Philips Advance Xitanium SR, requires EASYS, VDO or VRF						
EH1	ELV 120v only, 0-10v universal						
OD1	Osram Optotronic 1%, DEXAL						

## **Driver: 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 LUCEN configurations will not accommodate all circuiting options; consult with factory .

1	Single Circuit
E	Emergency Circuit only (uses nIO EZ PH ER with NLIGHT)
Ν	Night Light Circuit only

# **Battery & Emergency**

- Select battery or emergency options if required
- Battery duration is 90 minutes

0	No Battery					
1P	Bodine 10w Integral, CEC Listed					
1IC Iota 10w Integral, CEC Listed						
1G Bodine GTD						
FSG	Factory Select ALCR, Automatic Load Control Relay					
GI	Iota ETS DR, Emergency Lighting Control Device					
GB	Bodine GTD, Emergency Lighting Control Device					

- Test button is integral to fixture
- For more Battery options, see Pinnacle Resource Guide

#### 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

**Battery & Emergency Ordering Examples** 

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

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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

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

# **Fixture Options**

Additional options to enhance the fixture and finish of the product

QS	Quick Ship						
тw	Through-Wiring						
СР	Chicago Plenum						
AM	Antimicrobial Paint						
FW6	Flex Whip 6'						
GLR	Internal Fast Blow Fuse						
GMF	Internal Slow Blow Fuse						
PAF	Paint After Fabrication						

# **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

мор	Remote Driver
WOD	End Power Feed

# **Quick Ship**

	Shi	elding	Output	Мо	unting	Vol	tage	Drive	er	Ci	rcuiting	Bat	tery	Fir	nish	Optic	ons
•	10-	Day															
	w	White Rails	80 CRI, All color temperatures, all lumen packages <i>See pg 4</i>	G9	1" Grid 9/16" Grid Screw Slot	U 1 2	Universal 120v 277v	PL2	Factory Select Driver (1%, 0-10v) Advance Xitanium 0-10v, 1% Osram 0-10v, 1%	1 E N	Single Emergency Night Light	1P 1IC	Bodine 10w Integral Iota 10w Integral	w	White	FW6	Chicago Plenum Flex Whip 6' 18-gauge Internal Fast- Blow Fuse

Consult Factory for projects that are larger than 200 units.

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## Controls

- Pinnacle Lighting offers easy to specify network control solutions that connect to an intelligent centralized system to maximize lighting energy efficiencies or integral sensors for individual fixture control
- Pinnacle Lighting fixtures ship technology ready; commissioning by others
- Controls can only be used with Single Circuit (1) or Emergency Circuit (E)
- · Contact factory for any non-standard configurations for layout, placement, or EM options
- Controls only compatable with Satine Lens.
- Must specify required driver in Driver Section

	Solution	Components	Network/Sensor	Connection	Required Drivers	Limitations
DLMFC	Legrand Wattstopper DLM	LMFC-011	Digital Lighting Management (DLM)	Wired, two RJ45 ports	OL2, OL4	Not available with Battery
DLMFS	Legrand Wattstopper LLLC	LMFS-601-W / LMFI-111	Wireless DLM Fixture Sensor	Wireless	OD1, PR1, 0-10v	0-10v requires interface
EASYS	Philips EasySense	SNS-210	Daylight/PIR Occupancy	Wireless to switches	PR1	Not available with 347 volt
SNSLM	Encelium Sensilum	EN-CLM-PIR-DD-ZB	Encelium, Daylight/PIR Occupancy	Wireless	OD1, OL5	Not available with 347 volt
WLVX	Eaton WaveLinx	SWPD1, MSP3IVMVDC1	WaveLinx WCL, Daylight	Wireless	Any 0-10v	Not available with 347 volt
VDO	Lutron Vive Sensor	DFCSJ-OEM-OCC	Vive, Daylight/PIR Occupancy	Wireless	OD1, PR1	Not available with 347 volt
VRF	Lutron Vive Connected	DFCSJ-OEM-RF	Vive	Wireless	OD1, PR1	Not available with 347 volt
ENLI	Enlighted IOT	SU-5E-IOT, CU-4E	Enlighted, Daylight/PIR Occupancy	Wireless	Any 0-10v	Not available with 347 volt
ENLC	Enlighted Connected Lighting	SU-5E-CL, CU-4E	Enlighted, Daylight/PIR Occupancy	Wireless	Any 0-10v	Not available with 347 volt
ENL2I	Enlighted 2-Wire IOT	KIT-SU-5E-D-IOT	Enlighted, Daylight/PIR Occupancy	Wireless	OD1 OR PR1	Not available with 347 volt
ENL2C	Enlighted 2-Wire Connected Lighting	KIT-SU-5E-D-CL	Enlighted, Daylight/PIR Occupancy	Wireless	OD1 OR PR1	Not available with 347 volt

# **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

		Required Driver
MOD	Encelium Sensilum	OD1, OL5
	Acuity nLight Air Wireless Connected	EE6, ES6

# Approvals & Certifications

Construction: Pre-painted formed 22 gauge cold rolled steel housing. Highly reflective die-formed reflectors maintain uniform lens brightness. Wiring access on both sides and top of housing. Housing designed to maintain optimal temperature of LED diodes and driver. Captive door frame swings open for room-side maintenance of lens, driver and LED boards.

Shielding: Single piece extruded diffuse lens with convex wings and articulated center spine creating a fully luminous housing with optimal glare control. Available with standard satine lens or optional white or silver lens side rails.

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 25 lbs - Surface Mount Box adds 10 lbs.

LED: 25°C test environment. Lumen output/wattage has a margin of +/- 5%. All 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.

Color & Lumen 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 CRI, CCT & Output page. 80 CRI is available for 3000K, 3500K, and 4000K. 90 CRI is available for 2700K, 3000K, 3500K, and 4000K. 80 CRI = R9≥19 and 90 CRI = R9≥61.

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 LUCEN 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 95°F/35°C. For more driver options, see Pinnacle Resource Guide. Some LUCEN configurations will not accommodate all driver options.

Circuiting: Select from single circuit (1), Emergency circuit (E) or Night Light circuit (N). Some LUCEN 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: Pre-painted white polyester polymer finish on exposed trim. Optional Paint After Fabrication (PAF) available if specified in Options section of part number.

Controls: DLM utilizes wired network connections for digital control through switching and dimming. nLight Air rES7 sensor provides wireless control, daylight harvesting and occupancy detection with PIR or PDT using eldoLED LED drivers. nLight Air rIO module provides wireless control using eldoLED LED drivers. EasySense sensor provides daylight harvesting and PIR occupancy detection using the SR LED driver; the Philips app provides advanced configurations. ENCELIUM SensiLUM sensor provides wireless control, daylight harvesting and PIR occupancy; driver data is available when using the DEXAL driver. ENCELIUM SensiLUM sensor provides wireless control, daylight harvesting and PIR occupancy; driver data is available when using the DEXAL driver. WaveLinx Connected Lighting sensor provides wireless control and daylight harvesting using 0-10V LED drivers. Lutron Vive sensor provides wireless control, daylight harvesting and PIR occupancy detection using DEXAL or SR LED drivers. Lutron Vive module provides wireless control using DEXAL or SR LED drivers.

Labels: UL and cUL Listed. LO, MO, and HO lumen packages are IC Rated. Pre-painted fixtures are to be used in dry locations only. For damp location, must specify Paint After Fabrication (PAF) in the Options section of the luminaire

Fixture Weight: 25 lbs maximum - Surface Mount Box 10 lbs.

#### **Buy American Act Compliant**

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

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