PINNACLE
ARCHITECTURAL LIGHTING®

LUCEN LU24
2x4 Architectural Recessed

4" (103.1mm)
23-7/8" (605mm)

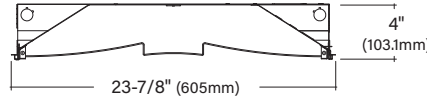## Key Features

- 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
- Indigo-Clean available, see Indigo-Clean specification sheets for details

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

| LU24 | - | SHIELDING | - | CRI, CCT & OUTPUT | - | MOUNTING | - | VOLTAGE | - | DRIVER | - | CIRCUITING | - | BATTERY & EMERGENCY | - | FINISH | - | FIXTURE OPTIONS | - | CONTROLS |

SHIELDING
A - Satine Lens *QS*
W - White Rails *QS*
S - Silver Rails *QS*
Shielding pg. 2

SOURCE *QS*[1]
_27_ _ - 2700K
_30_ _ - 3000K
_35_ _ - 3500K
_40_ _ - 4000K
CL_ _ _ _ _ _ - Custom Lumens
CW_ _ _ _ _ _ - Custom Watts
MOD - Mod options available
Lumen Output pg. 2

MOUNTING
G1 - 15/16" Grid *QS*
G9 - 9/16" Grid *QS*
GS - Screw Slot Grid *QS*
FL - Flanged
S - Surface Mount
Mounting pg. 3

VOLTAGE
U - Universal *(120 thru 277V)* *QS*
1 - 120V *QS*
2 - 277V *QS*
3 - 347V
Voltage pg. 3

DRIVER
FSD - Factory Select Driver *(1%, 0-10v)* *QS*
PL2 - Advance Xitanium *(1%, 0-10v)* *QS*
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)*
PR1 - Advance Xitanium SR
OL2 - eldoLED Optotronic *(1%, 0-10v, standard)* *QS*
MOD - Mod options available
Driver pg. 4

CIRCUITING
1 - Single Circuit *QS*
E - Emergency *(entire fixture)* *QS*
N - Night Light *(entire fixture)* *QS*
Circuiting pg. 4

BATTERY & EMERGENCY
0 - None *QS*
1P - Bodine 10W *QS*
1IC - Iota 10W, CEC Listed *QS*
FSG - Factory Select ALCR
FSB - Factory Select Battery
GI - Iota ETS DR
GB - Bodine GTD
Battery and Emergency pg. 4

FINISH
W - White *QS*
MOD - Mod options available
Finish pg. 5

FIXTURE OPTIONS[2]
QS - QuickShip *QS*
TW - Through-wiring
CP - Chicago Plenum
AM - Antimicrobial Paint
FW6 - 6' Flex Whip *QS*
GLR - Fast Blow Fusing *QS*
GMF - Slow Blow Fusing
BA - Buy American Act compliant
PAF - Paint after fabrication
MOD - Mod options available
Fixture Options pg. 5

CONTROLS[3]
DLMFC - Wattstopper DLM *(wired)*
DLMFS - Wattstopper LLLC *(wireless)*
EASYS - Philips EasySense *(wireless)*
SNSLM - Encelium Sensium *(wireless)*
WVLX - Eaton WaveLinx *(wireless)*
VDO - Lutron Vive Sensor *(wireless)*
VRF - Lutron Vive Connected *(wireless)*
ENL - Enlighted, "C" Connected Lighting or "I" IOT
ENL2 - Enlighted 2-Wire, "C" Connected Lighting or "I" IOT
MOD - Mod options available
Controls pg. 6

[1]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 color temperature, either 3500K or 4000K, and output, example B35HO - BIOS 3500K High Output. See output charts for more information. BIOS dynamic available, please contact factory for more information [2]If specifying QS, QS must be used in fixture options section of part number to qualify. [6]Controls can only be used with Single Circuit (1) or Emergency Circuit (E). See Controls chart on page 5 for driver options and 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.

Shielding

- Single piece extruded diffuse lens with convex wings and articulated center spine
- Fully luminous housing with optimal glare control
- Highly reflective white reflectors maintain uniform lens brightness

Ordering Code

A	W	S
Satine Lens	Satine Lens with White Trim	Satine Lens with Silver Trim

Source

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

80 CRI

	Color	Output	Watts	Shielding A Satine Lens Lumens	LPW	W White Trim Lumens	LPW	S Silver Trim 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

	Color	Output	Watts	Shielding A Satine Lens Lumens	LPW	W White Trim Lumens	LPW	S Silver Trim Lumens	LPW
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
940MO	4000K	Middle	32.2	3727	115.7	3362	104.4	3172	98.5
940HO	4000K	High	40.8	4611	113.0	4159	101.9	3924	96.2
940VHO	4000K	Very High	63.9	6674	104.4	6020	94.2	5680	88.9

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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

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

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
- Tie off fixture to structure with retention wires

- 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

G1
1" Grid Mount
Works with 15/16" grid ceiling types. See profile for fixture position in relation to ceiling grid and tile.

Standard Tile

Tegular Tile

G9
9/16" Grid Mount
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.

Standard Tile

Tegular Tile

GS
Screw Slot Mounting
Works with screw slot and bolt slot grid ceiling types.

FL
Flange Kit
A separate flange kit is supplied for installations into inaccessible or drywall applications. Flange kit ships from factory uninstalled separately from fixture.

S
Surface Mount
Utilize for hard lid ceiling applications. The 20 gauge steel frame easily secures to ceiling. Surface Mount Box adds 10 lbs

4-5/8"
(117.6mm)

Voltage

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

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 LUCEN 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	
OD1	eldoLED Optotronic 1%, DEXAL
EE3	eldoLED ECOdrive .1%, DALI (logarithmic)
ES3	eldoLED SOLOdrive .1%, DALI (logarithmic)
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
EH1	ELV 120v only, 0-10v universal
OD1	eldoLED 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)*
N	Night Light Circuit only

Battery & Emergency

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

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

0	No Battery
FSB	Factory Select Battery (10w option)
FSBST	Factory Select Battery (10w, Self Testing)
1P	Bodine 10w Integral, *CEC Listed*
1IC	Iota 10w Integral, *CEC Listed*
FSG	Factory Select Automatic Load Control Relay (ALCR), UNV
GI	Emergency Transfer Switch (ETS) DR Emergency Control Device, UNV
GB	Bodine GTD, Generator Transfer Device, 120v or 277v

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

Finish

- Pre-painted white polyester polymer finish, optional paint after fabrication (PAF) option available

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
	Acoustic
	Metallic Silver
	Textured Black
	Bronze
	Graphite
	Custom Color

Fixture Options

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

QS	Quick Ship
TW	Through-Wiring
CP	Chicago Plenum
AM	Antimicrobial Paint
FW6	Flex Whip 6'
GLR	Internal Fast Blow Fuse
GMF	Internal Slow Blow Fuse
BA	Buy American Act Compliant
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

MOD	Remote Driver
	End Power Feed

Quick Ship

Shielding	Output	Mounting	Voltage	Driver		Circuiting	Battery	Finish	Options	
10-Day										
A Satine Lens **W** White Rails **S** Silver Rails	80 CRI, All color temperatures, all lumen packages *See pg 4*	**G1** 1" Grid **G9** 9/16" Grid **GS** Grid Screw Slot	**U** Universal **1** 120v **2** 277v	**FSD** Factory Select Driver *(1%, 0-10v)* **PL2** Advance Xitanium 0-10v, 1% **OL2** Osram 0-10v, 1%		**1** Single **E** Emergency **N** Night Light	**1P** Bodine 10w Integral **1IC** Iota 10w Integral	**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 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: 25ºC 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.

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. 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 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 1598 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.

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

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