

CLUSTER

ACOUSTIX PENDANT PLANAR

LUMENWERX

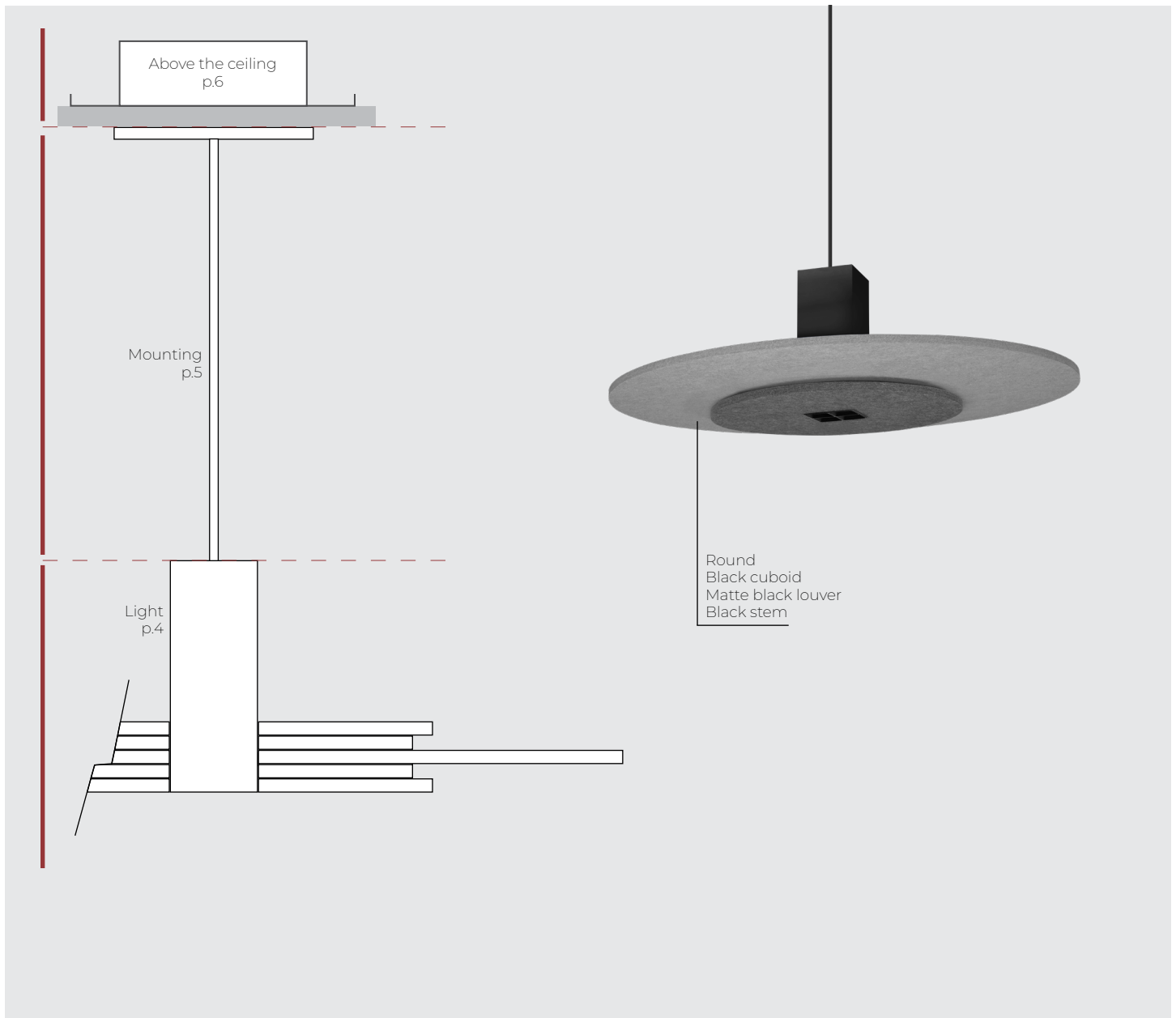


Project: _____

 Type: _____

DESCRIPTION

Cluster Acoustix is the precise family of downlights available in both linear and planar configurations for pendant mounting. Complementing the cuboid light engine is a 22 inch stepped three-layer acoustic panel in round or square for excellent sound absorption. Based on a fundamental 1.2" square cell, Cluster Acoustix delivers lighting that is optically sophisticated and aesthetically refined. Cluster Acoustix pendant planar downlights are available in a 4-cell (2x2) configuration, with a choice of precision optics, beam spreads and subtle louver treatments. Pendant downlights fit a 6" height acoustic cuboid enclosure. Nominal light output is 200 lumens per cell. Pendant Cluster Acoustix can be suspended using stems. Driver is either integral or remote, which is capable of powering multiple luminaires.



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Project: _____

Type: _____

LIGHT + MOUNTING

Consult pages 4 and 5 for details before specifying

CLUP22ACO		22	6					SW	
LUMINAIRE ID	SHAPE	SIZE	CUBOID HEIGHT	CUBOID FINISH	LOUVER	LOUVER FINISH	LIGHT SOURCE	OPTICS	
CLUP22ACO - Cluster Acoustix Pendant 2x2	R - Round S - Square	22 - 22"	6 - 6"	TMW - Textured matte white TMB - Textured matte black CF# - Custom finish, specify RAL#	CON ¹ - Conical HYP - Hyperbolic SQR - Square ¹ Faceplate matches body finish black and white only.	MF01 - Matte white MF04 - Matte black BL05 - Black chrome GLO6 - Gold CP06 - Copper	SW - Static white	SOF - Soft edge downlight REF - Sharp edge downlight	

	90							
BEAM	CRI	COLOR TEMP	DRIVER	VOLTAGE	LUMEN PACKAGE ⁴	DIMMING		
SPT ² - Spot NFL ³ - Narrow flood FLD - Flood WFL - Wide flood	90 - 90 CRI	27 - 2700K 30 - 3000K 35 - 3500K 40 - 4000K	INTEGRAL - Integral driver	120 - 120V 277 - 277V	811 - 811 lm ⁴ Lumen package shown at 3500K, with SOF-NFL 25°. For other, see lumen output multipliers on page 6.	D1 - 1% 0-10V ELV ⁵ - ELV 120V TRI - TRIAC 120V ⁵ Available with 120V only.		
² Available with REF only. ³ Available with SOF only.			REMOTE - Remote driver	FOR FULL REMOTE DRIVER SPECIFICATION, SEE "REMOTE DRIVER" SECTION BELOW.				

REG	CANOPY TYPE	CANOPY FINISH	HANGER	IN###	OUT###																																																
	REG - 4" octagonal junction box	TMW - Textured matte white TMB - Textured matte black CF# - Custom finish, specify RAL#	STEM ⁶ WHS - Textured white stem BKS - Textured black stem ⁶ Min 18" - max 48"	LENGTH #IN - Length in inches	INSIDE FELT COLOR Please specify the color for both the inside felt and the outside felt from the list of standard or premium colors below.	OUTSIDE FELT COLOR																																															
				<table border="0"> <tr> <th colspan="2">STANDARD COLORS</th> <th colspan="6">PREMIUM COLORS^{7,8}</th> </tr> <tr> <td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	STANDARD COLORS		PREMIUM COLORS ^{7,8}																																														
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					⁷ Please consult factory for more color options. ⁸ Lead time may vary.																																																

REMOTE DRIVER OPTIONAL

Consult page 6 for details before specifying

Continue here for full remote driver specifications. Remote driver can be ordered separately.

		CLUP22ACO			
REMOTE DRIVER ⁹	LUMINAIRE QTY ¹⁰	LUMINAIRE ID	VOLTAGE	LUMEN PACKAGE ^{11,12}	DIMMING ¹³
RDB# - Remote driver ⁹ If multiple driver boxes needed, specify a line number for each driver type used. (e.g. RDB1-4X-CLUP05ACO...RD1 RDB2-2X-CLUP05ACO...RD1 ...)	#X - Number of luminaires ¹⁰ Specify number of luminaires per remote driver. (e.g. 3X)	CLUP22ACO - Cluster Acoustix Pendant 2x2	120 - 120V 277 - 277V UNV - 120V-277V	### - Low 203 lm - Med 507 lm - High 811 lm ¹¹ Watts and lumen per watts will vary based on the number of lighting units per remote driver as well as on the type of driver selected. ¹² Low and medium lumen packages are not available with RELV and RTRI dimming options.	RD1 - 1% 0-10V RELV ¹⁴ - ELV 120V RTRI ¹⁴ - TRIAC 120V RDA ¹⁵ - DALI RLTEA2W ¹⁴ - Lutron 1% - 2 wire FP 120V RLDE1 ¹⁵ - Lutron Hi-Lume 1% Eco ¹³ For configurations involving different clusters sizes on a remote driver, please consult factory. ¹⁴ Available with 120V only. ¹⁵ On-site commissioning is required.

EXAMPLE ORDER CODES

WHEN SPECIFYING WITH INTEGRAL DRIVER	
LIGHT + MOUNTING	CLUP22ACO-R-22-TMW-CON-MF01-SW-SOF-NFL-CRI90-35-INTEGRAL-120-811-D1-REG-TMW-WHS-18IN-INFON-OUTPMN
REMOTE DRIVER	N/A
WHEN SPECIFYING WITH REMOTE DRIVER	
LIGHT + MOUNTING	CLUP22ACO-R-22-TMW-CON-MF01-SW-SOF-NFL-CRI90-35-REMOTE-REG-TMW-WHS-18IN-INFON-OUTPMN
REMOTE DRIVER	Remote driver 1: RDB1-6X-CLUP22ACO-120-507-RD1 Remote driver 2: RDB2-2X-CLUP22ACO-120-507-RD1

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Standard Color Options



Premium Color Options*



*Please consult factory for more color options.
*Lead time may vary.

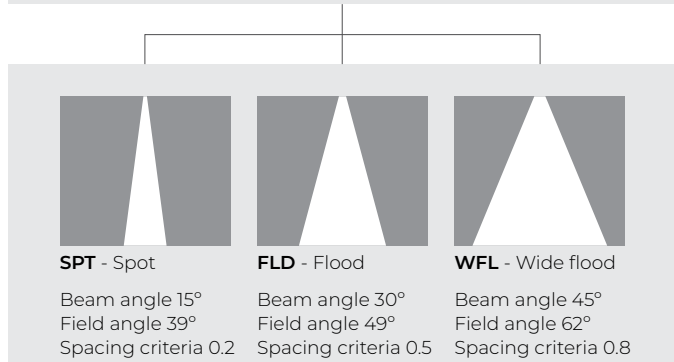
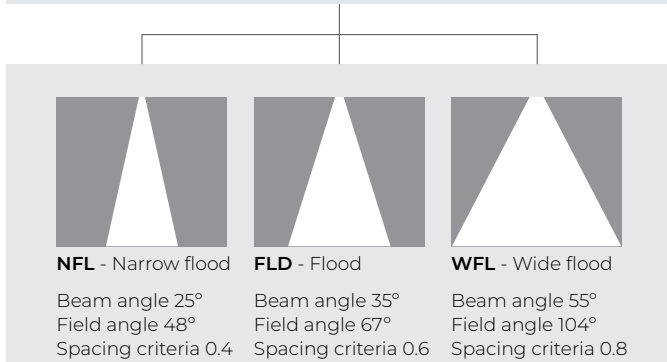
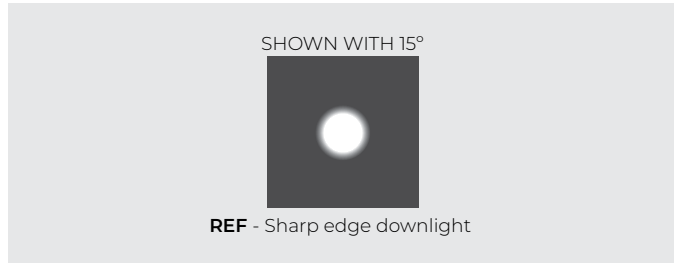
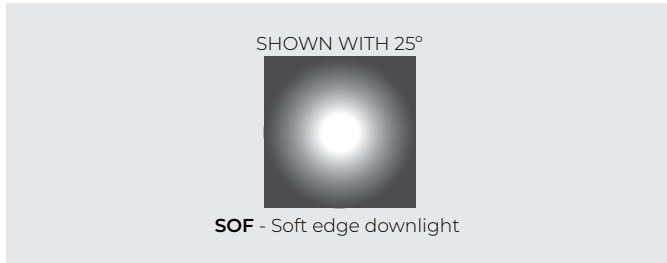
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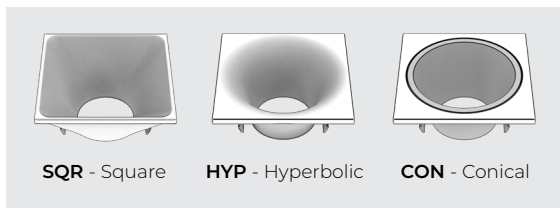
LUMENWERX

LIGHT

OPTICS & BEAM ANGLE

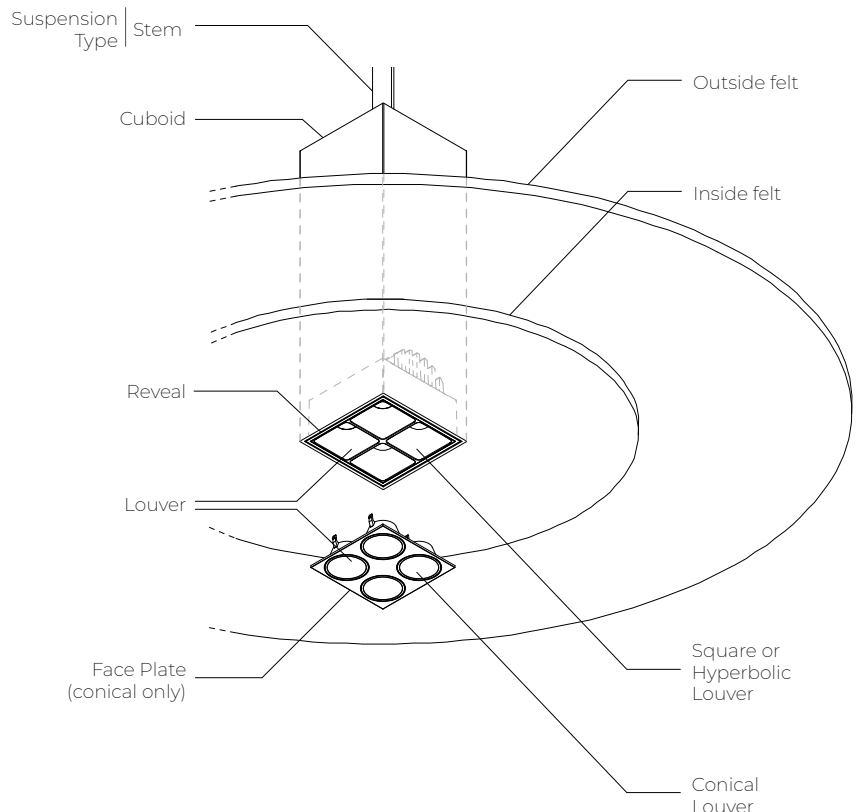


LOUVER SHAPE



LOUVER FINISH

Louver is injection molded with integral texture and color

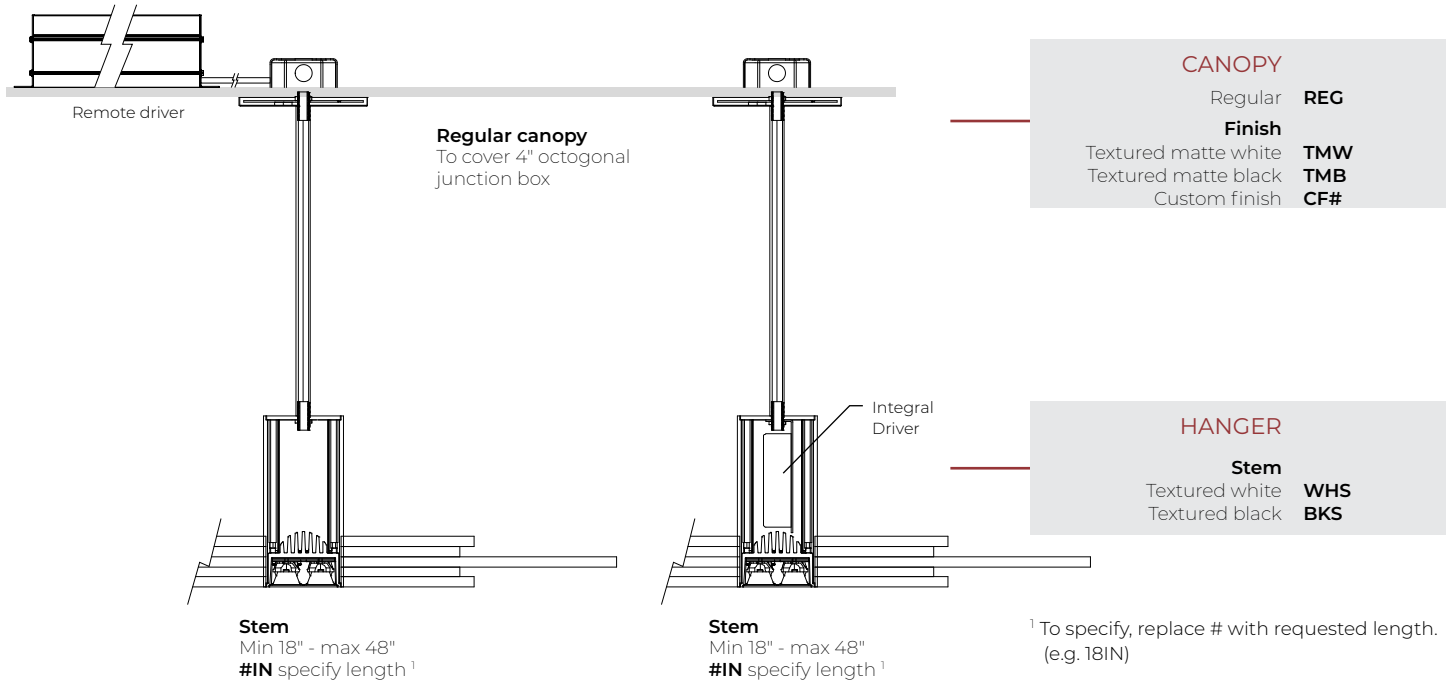


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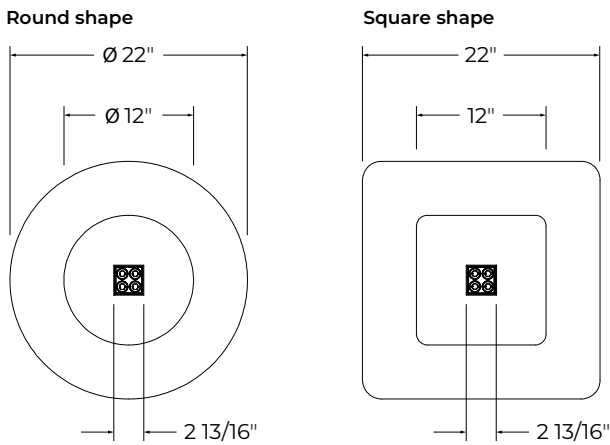
ACOUSTIX PENDANT PLANAR

LUMENWERX

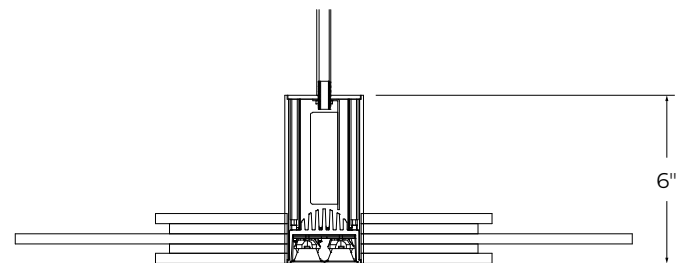
MOUNTING



BOTTOM VIEW



CROSS SECTION



See linear spec sheet for more sizes.

DRIVER

INTEGRAL DRIVER

The integral driver is sized to the lighting unit and is connected directly with Class 2 wiring and quick-splice connectors. The driver is accessible for service through the body of the fixture.

MULTIPLIER

GENERAL LUMEN OUTPUT MULTIPLIER AT 90CRI

OPTICS	2700K						3000K						3500K						4000K					
	SOFT			SHARP			SOFT			SHARP			SOFT			SHARP			SOFT			SHARP		
BEAM ANGLE	25	35	55	15	30	45	25	35	55	15	30	45	25	35	55	15	30	45	25	35	55	15	30	45
LUMEN OUTPUT MULTIPLIER	0.87	0.92	0.82	0.80	0.84	0.86	0.93	0.99	0.87	0.86	0.89	0.92	1	1.06	0.94	0.92	0.96	0.99	1.03	1.09	0.97	0.95	0.99	1.02

LUMEN PACKAGE (AT 3500K, SOFT 25° BEAM) - INTEGRAL DRIVER

LUMINAIRE ID	LUMEN OUTPUT	WATTS	EFFICACY LM/W	LUMEN PACKAGES	VOLTAGE	INTEGRAL DRIVER
CLUP22ACO	811 lm	10.4W	78 lm/W	Use the multiplier tables to calculate the lumen package	120 - 120V 277 - 277V	D1 - 1% 0-10V ELV ¹ - ELV 120V TRI ¹ - TRIAC 120V ¹ Available with 120V only.

REMOTE DRIVER

The remote driver can power several lighting units, depending on their total power. The minimum and maximum number of lighting units and driver type are shown in the table below and must be observed. The remote driver and lighting units are wired together through connection boxes, which are furnished pre-wired to the driver enclosure. All wiring is Class 2 with quick-splice connectors. The remote driver requires access from above the ceiling (or an access panel).

LUMEN PACKAGE¹ (AT 3500K, SOFT 25° BEAM) - REMOTE DRIVER

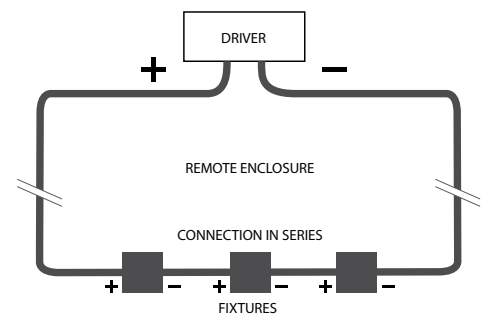
LUMINAIRE ID	LUMEN PACKAGE ²			VOLTAGE	REMOTE DRIVER	NUMBER OF LIGHTING UNITS PER DRIVER
CLUP22ACO	LOW 203 lm	MEDIUM 507 lm	HIGH 811 lm	120 - 120V 277 - 277V UNV - 120V-277V	RD1 - 1% 0-10V RELV ³ - ELV 120V RTRI ³ - TRIAC 120V RDA ⁴ - DALI RLTEA2W ³ - Lutron 1% - 2 wire FP 120V RLDE1 ⁴ - Lutron Hi-lume 1% Eco ³ Available with 120V only. ⁴ On-site commissioning is required.	See table below for maximum and minimum possible number of lighting units per each driver. For configurations involving different cluster sizes on a remote driver, please consult factory.

¹ Watts and lumens per watt will vary based on the number of lighting units per remote driver as well as on the type of driver selected.

NUMBER OF LIGHTING UNITS PER DRIVER - MINIMUM AND MAXIMUM

DRIVER TYPE	CLUP22ACO
D1 - 1% 0-10V	2 - 6
ELV - ELV 120V	3
TRI - TRIAC 120V	3
DA - DALI	2 - 6
LTEA2W - Lutron 1% - 2 wire FP 120V	1 - 4
LDE1 - Lutron Hi-lume 1% Eco	2 - 4

For any quantities of lighting units per driver that fall outside the minimum and maximum listed above, please consult factory.



ACOUSTIC CALCULATOR

Using the Lumenwerx Acoustix Value Calculator table, you can determine the number of acoustic luminaires required in a space by fixture type. We have three levels of recommended sound reduction: good, better, and best. Choosing one of these options will reduce the sound accordingly. The best option indicates the best acoustic improvement. Calculations are based on a standard ceiling height of 9 feet.



① Calculate the square feet of your room (L x W).

② Choose the level of acoustical improvement you are looking for, and find the corresponding value based on your room dimension and luminaire configuration.

% in reduction in reverberation time		
😊	GOOD	25%
😊😊	BETTER	40%
😊😊😊	BEST	50%

SIZE	Room dimensions under 300 sq ft			Room dimensions over 300 sq ft		
	GOOD 😊	BETTER 😊😊	BEST 😊😊😊	GOOD 😊	BETTER 😊😊	BEST 😊😊😊
Round ø22"	30	15	10	48	24	16
Square 22" x 22"	38	19	13	61	30	20

③ Use the Lumenwerx Acoustix Value Formula to determine the number of luminaires needed in the room.

$$\text{Square feet} \div \text{Value} = \text{Number of luminaires}$$

Example:

Luminaires: Cluster Acoustix, Square 22" x 22"

Room square feet: L: 20 ft x W: 18 ft = 360 sq ft

Desired acoustical improvement: Better = 30

Number of luminaires needed in the room: $360 \div 30 = 12$ luminaires

NOTES:

- You can mix lit and blank fixtures.
- Lumenwerx acoustic calculators were developed to act as a guide. For precise acoustic performance in a space, please consult an acoustician.

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Technical Specifications

OPTICS

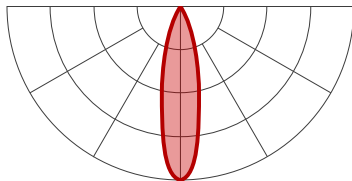
SOFT-EDGED FEATHERED BEAM (SOF) blends the light into darker areas for a gentle brightness transition. Each LED emitter directs light through a single, custom molded circular optic using total internal reflection (TIR) to shape the light. A 0.5" reflective square louver provides a cut off with a UGR of 10. Three different TIR elements create a choice of beam spread: 25° narrow flood (NFL), 35° flood (FLD), or 55° wide flood (WFL).

SHARP-EDGED CUT-OFF BEAM (REF) creates dramatic impact, limiting the spread of light outside of the primary beam. A molded conical reflector redirects light from each emitter into the desired beam angle. A 0.5" reflective square louver provides a cut off with a UGR of 10. Three different TIR elements create a choice of beam spread: 15° spot (SPT), 30° flood (FLD), or 45° wide flood (WFL).

LIGHT SOURCE

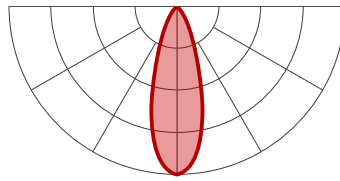
Custom array of high-flux LEDs mounted onto aluminum-backed circuitry. Available in 2700K, 3000K, 3500K and 4000K with a minimum 90 CRI with elevated R9 value. Color consistency is maintained to within 3 SDCM. All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

SOFT-EDGE DOWNLIGHT



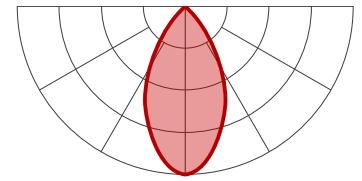
NFL - Narrow flood

Beam angle 25°
Field angle 48°
Spacing criteria 0.4



FLD - Flood

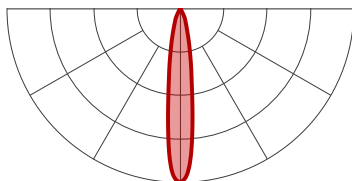
Beam angle 35°
Field angle 67°
Spacing criteria 0.6



WFL - Wide flood

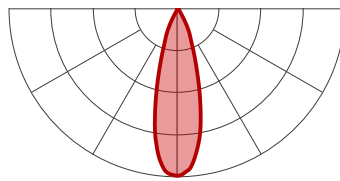
Beam angle 55°
Field angle 104°
Spacing criteria 0.8

SHARP-EDGE DOWNLIGHT



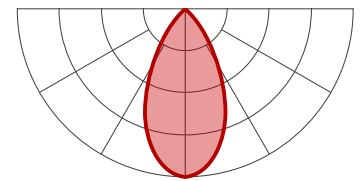
SPT - Spot

Beam angle 15°
Field angle 39°
Spacing criteria 0.2



FLD - Flood

Beam angle 30°
Field angle 49°
Spacing criteria 0.5



WFL - Wide flood

Beam angle 45°
Field angle 62°
Spacing criteria 0.8

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Technical Specifications

WEIGHT

Cluster Acoustix 2x2: 6.75 lbs - 3 kg

CONSTRUCTION

Housing - Die-cast aluminum (0.95" nominal)

Optics - Polycarbonate

Cuboid - Aluminum extrusion

Cover pendant - 18 gauge aluminum sheet

Extension bar - Galvanized steel

ACOUSTIC FINISH

Material is 100% polyester containing up to 50% of recycled plastic bottles (PET) with an ASTM E-84 Class A fire rating and is moisture resistant.

CARE

Remove dust and debris with a clean, dry, soft, lint-free cloth, or vacuum.

CERTIFICATIONS

ETL - Rated for indoor dry/damp locations. Conforms to UL 1598 Standard and certified to CAN/CSA Standard C22.2 No. 250.0

WARRANTY

Lumenwerx provides a five-year limited warranty on electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. Lumenwerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated in accordance with our specifications. Other limitations apply, please refer to the full warranty on our website.



WELL for Light - The WELL building standard focuses on light quality in several features. There are three categories that are fully attributed to the construction and features of a luminaire. In WELL V1, it's Feature 54 Circadian Lighting, Feature 55 Glare Control, and Feature 58 Color Quality. In WELL V2, it's Feature L03 Circadian Lighting, Feature L04 Glare Control, and Feature L07 Electric Light Quality.

This fixture meets Features:

- Feature 58 or L07 when 90CRI is selected
- Feature 55 or L04 meets WELL glare category (b-c-d)

All LED drivers used at Lumenwerx are deemed to have a low risk level of flicker, of 5 % or less below 90Hz operational as defined by IEEE standard 1789-2015 LED.



WELL for Sound - This luminaire is recommended for use as an acoustical absorption surface to limit reverberation times (RT) in a given space. This luminaire contributes to noise reduction and vibration dampening to promote focus and concentration. Reverberation needs to be calculated in each space based on the materials used.



WELL for Mind - This luminaire meets WELL for mind as it is a human centric luminaire offering quality light, excellent color, smooth optics, and a sound diminishing element. If any of these features are incorporated in a luminaire, it can improve the ability to focus, concentrate, and persist longer on a given task. This fixture harmoniously operates in a space to assist the mind.

For more information please contact well@lumenwerx.com.