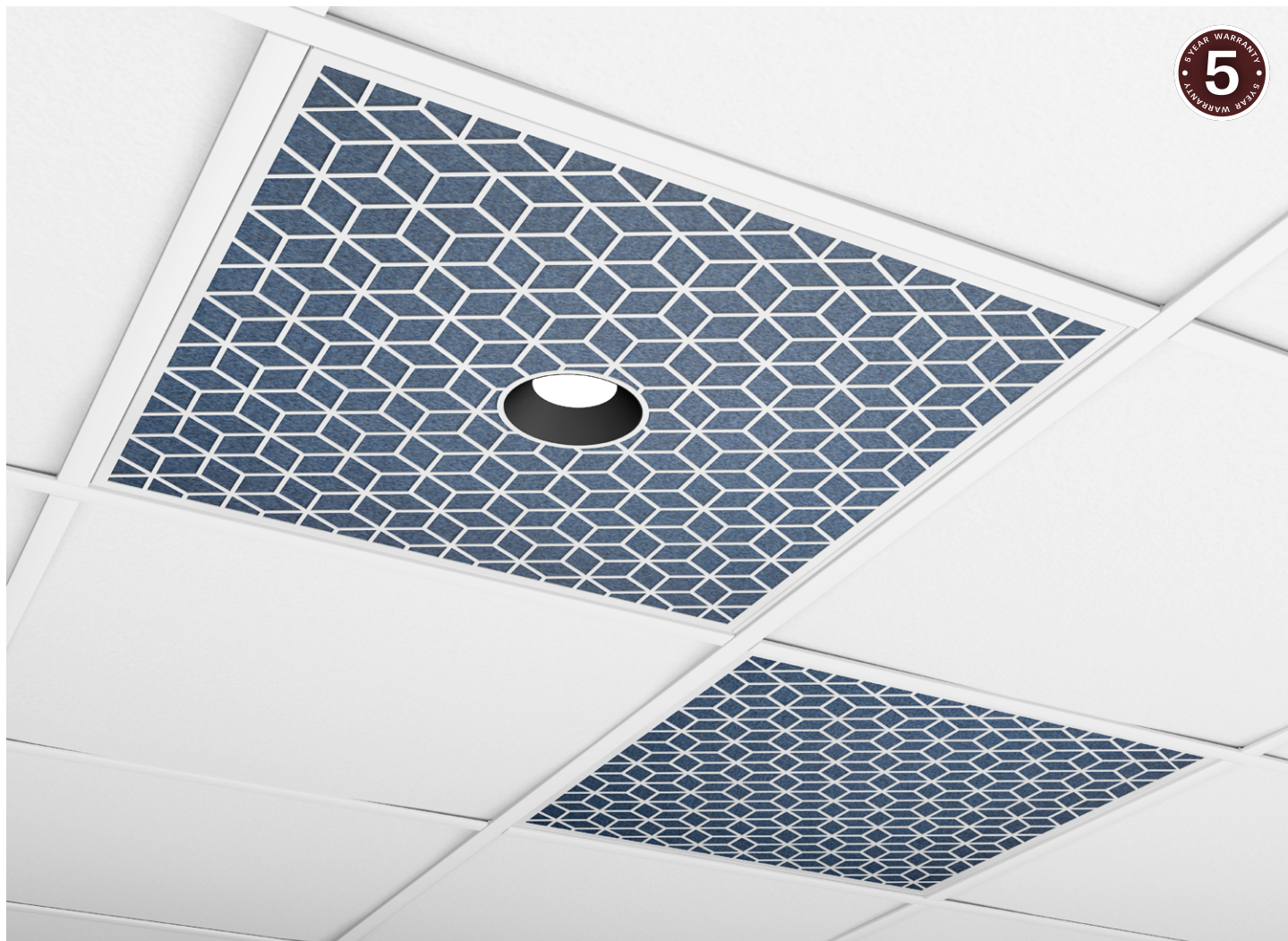


# AERA 4" ECHOCORE

RECESSED

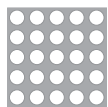
STATIC WHITE, FULL SPECTRUM, SOLA/DUO



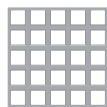
## DESCRIPTION

Aera EchoCore™ acoustic luminaires not only offer outstanding optical performance and maximal eye comfort, but they also reduce echo and reverberation in their immediate environment. When sound waves meet the lighting fixture, they pass through its aluminum lattice only to be trapped by its core of layered sound-absorbing material. Available in round and square models with recessed mounting.

## Patterns



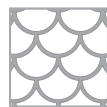
Round



Square



Linear



Scallop



Cubic

# AERA 4" ECHOCORE

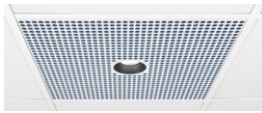
RECESSED

STATIC WHITE, FULL SPECTRUM, SOLA/DUO

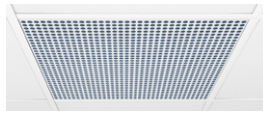


Project:

Type:



Luminaire



Blank































## Luminaire code

LUMINAIRE ID	SIZE	LIGHT SOURCE	BEAM	COLOR QUALITY	CRI	COLOR TEMP.	OPTICAL OPTION
	2FTX2FT						
<b>AE4RECHR</b> - Aera 4" Round EchoCore Recessed <b>AE4SECHR</b> - Aera 4" Square EchoCore Recessed	2FTX2FT - 2' X 2'	<b>SW</b> - Static white <b>FS</b> - Full spectrum  <b>SOLA</b> - Dim-to-warm single channel control 35K to 22K <b>DUO</b> - Tunable white 2-channel control 65K to 27K	<b>15</b> - 15° Narrow spot <b>25</b> - 25° Spot <b>35</b> - 35° Narrow flood <b>50</b> - 50° Wide flood  <b>SOLA</b> <b>50</b> - 50° Wide flood  <b>DUO</b> <b>25</b> - 25° Spot <b>35</b> - 35° Narrow flood <b>50</b> - 50° Wide flood	<b>2</b> <sup>1</sup> - 2 Step MacAdam Ellipse <b>3</b> - 3 Step MacAdam Ellipse  <sup>1</sup> Not available with full spectrum.  <b>SOLA, DUO</b> <b>3</b> - 3 Step MacAdam Ellips	<b>80</b> <sup>2</sup> - 80 CRI <b>90</b> <sup>2</sup> - 90 CRI <b>95</b> <sup>3</sup> - 95 CRI  <sup>2</sup> Not available with full spectrum. <sup>3</sup> Not available with static white.  <b>SOLA, DUO</b> <b>90</b> - 90 CRI <b>95</b> - 95 CRI	<b>27</b> - 2700K <b>30</b> - 3000K <b>35</b> - 3500K <b>40</b> - 4000K  <b>SOLA, DUO</b> <b>SOLA</b> - Dim-to-Warm single channel 35K-22K <b>DUO</b> - Tunable white 2-channel control 65K to 27K	<b>LS</b> - Linear spread <b>HEX</b> - Hex louver <b>NA</b> - None

BEZEL	LENS	BEZEL FINISH	VOLTAGE	WATTAGE	DRIVER <sup>8</sup>
<b>BEV</b> - Bevel <b>PIN</b> <sup>4</sup> - Pinhole  <sup>4</sup> Not available with square recessed.	<b>SDL</b> <sup>5</sup> - Soft diffused lens <b>FDL</b> <sup>5</sup> - Frosted diffused lens <b>CL</b> <sup>5</sup> - Clear lens <b>NOL</b> - No lens  <sup>5</sup> Not available with pinhole bezel.	<b>TMW</b> - Textured matte white <b>TMB</b> - Textured matte black <b>SPC</b> - Specular <b>SSPC</b> - Semi-specular <b>CHP</b> - Champagne <b>W</b> - Matte white <b>AL</b> - Aluminum <b>B</b> - Matte black <b>CF#</b> - Custom finish, specify RAL#  See page 3 for more finish options.	<b>120</b> - 120V <b>277</b> - 277V <b>UNV</b> - 120V-277V <b>347</b> <sup>6,7</sup> - 347V  <sup>6</sup> Available with DI only. <sup>7</sup> Driver is remote.	<b>14W</b> - Low output 1451-1538 lm <b>20W</b> - Medium output 2026-2146 lm <b>28W</b> - High output 2719-2882 lm  <b>SOLA</b> <b>25W</b> - 25 W output 1300-1400lm (50° only)  <b>DUO</b> <b>19W</b> - 19 W output 900-1100lm (25° and up)	<b>D1</b> - 1% 0-10V <b>ELV</b> <sup>9</sup> - ELV 120V <b>TRI</b> <sup>9</sup> - TRIAC 120V  <sup>8</sup> PoE (Power-over-Ethernet) compatible. Consult factory for details. <sup>9</sup> Available with 120V only. <sup>10</sup> On-site commissioning is required.  <b>SOLA</b> <b>SD1</b> - 1% 0-10V <b>SELV</b> <sup>9</sup> - ELV 120V <b>STRI</b> <sup>9</sup> - TRIAC 120V  <b>LDE1</b> - Lutron Hi-lume 1% Eco <b>DA</b> <sup>10</sup> - DALI <b>ELD1</b> - eldoLED 1% ECOdrive 0-10V <b>ELDO</b> - eldoLED 0.1% SOLOdrive 0-10V  <b>DUO</b> <b>DMX</b> <sup>10</sup> - DMX <b>DDA</b> <sup>10</sup> - DALI <b>DD1</b> - Dual 0-10V input for CCT/intensity <b>LD2</b> <sup>10</sup> - Lutron DALI-2 digital

ELECTRICAL	MOUNTING	PATTERN	PATTERN FINISH	FELT COLOR					
1C									
1C - 1 circuit	TG9 - Tegular 9/16" TG15 - Tegular 15/16" TB9 - T-bar 9/16" TB15 - T-bar 15/16" ST - Screw slot t-bar	Standard ROU - Round SQU - Square LIN - Linear  Premium SCP - Scallop CBC - Cubic	W - Matte white AL - Aluminum B - Matte black CF# - Custom finish, specify RAL#  See page 3 for more finish options.	STANDARD COLORS		PREMIUM COLORS <sup>11</sup>			
				<div><div></div>FWN</div> <div><div></div>FON</div> <div><div></div>ION</div> <div><div></div>TBN</div> <div><div></div>MDN</div>	<div><div></div>LVN</div> <div><div></div>LEN</div> <div><div></div>CYN</div> <div><div></div>PMN</div> <div><div></div>FGN</div>	<div><div></div>PKN</div> <div><div></div>OGN</div> <div><div></div>LNN</div> <div><div></div>LMN</div> <div><div></div>EGN</div>	<div><div></div>CDN</div> <div><div></div>LCN</div> <div><div></div>SYN</div> <div><div></div>BLN</div> <div><div></div>NVN</div>	<div><div></div>IVN</div> <div><div></div>SLN</div> <div><div></div>CNN</div> <div><div></div>GHN</div> <div><div></div>CLN</div>	<div><div></div>BHN</div> <div><div></div>CFN</div> <div><div></div>GRN</div> <div><div></div>MON</div> <div><div></div>ESN</div>
<sup>11</sup> Please consult factory for more color options. Lead time may vary.									

## Blank code

LUMINAIRE ID	SIZE	MOUNTING	PATTERN	PATTERN FINISH	FELT COLOR	
ECHBR	2FTX2FT					
ECHBR - EchoCore Blank Recessed	2FTX2FT - 2' X 2'	TG9 - Regular 9/16" TG15 - Regular 15/16" TB9 - T-bar 9/16" TB15 - T-bar 15/16" ST - Screw slot t-bar	Standard	W - Matte white AL - Aluminum B - Matte black CF# - Custom finish, specify RAL#	STANDARD COLORS	PREMIUM COLORS <sup>12</sup>
			ROU - Round SQU - Square LIN - Linear  Premium SCP - Scallop CBC - Cubic	See page 3 for more finish options.	<div><div></div>FWN</div> <div><div></div>FON</div> <div><div></div>ION</div> <div><div></div>TBN</div> <div><div></div>MDN</div> <div><div></div>LVN</div> <div><div></div>LEN</div> <div><div></div>CYN</div> <div><div></div>PMN</div> <div><div></div>FGN</div> <div><div></div>PKN</div> <div><div></div>OGN</div> <div><div></div>LNN</div> <div><div></div>LMN</div> <div><div></div>EGN</div> <div><div></div>CDN</div> <div><div></div>LCN</div> <div><div></div>SYN</div> <div><div></div>BLN</div> <div><div></div>NVN</div> <div><div></div>IVN</div> <div><div></div>SLN</div> <div><div></div>CNN</div> <div><div></div>GHN</div> <div><div></div>CLN</div> <div><div></div>BHN</div> <div><div></div>CFN</div> <div><div></div>GRN</div> <div><div></div>MON</div> <div><div></div>ESN</div>	
<sup>12</sup> Please consult factory for more color options. Lead time may vary.						

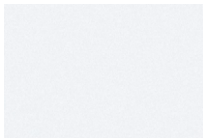
# AERA 4" ECHOCORE

RECESSED  
STATIC WHITE, FULL SPECTRUM, SOLA/DUO



## Fixture/Pattern Finishes

### Standard



**W** - Matte White



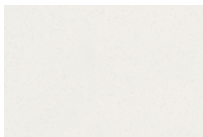
**AL** - Aluminum



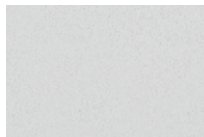
**B** - Matte Black

### Custom

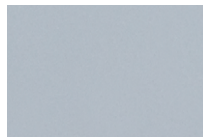
#### Neutrals



**CRM** - Cream



**GRY** - Gray



**STG** - Steel Gray



**SAG** - Sage Gray

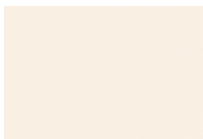


**MOG** - Moss Gray



**BLB** - Black Blue

#### Designer



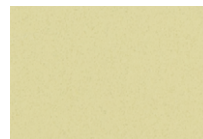
**ALM** - Almond



**QRZ** - Quartzite Texture



**RST** - Rust Fine Texture



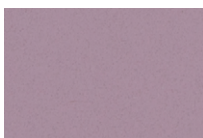
**GRB** - Green Beige



**YLW** - Yellow



**SLM** - Salmon Pink



**VIO** - Pastel Violet



**RED** - Red



**PRR** - Purple Red



**SMB** - Storm Blue



**DPB** - Deep Blue



**OCB** - Ocean Blue



**BLG** - Blue Green



**GNS** - Green Smoke



**MNG** - Mint Green



**LMG** - Lime Green

#### Metallics



**CHP** - Champagne



**GLD** - Gold



**DGD** - Dark Gold



**IRN** - Iron Ore



**CNY** - Canyon



**SBP** - Sandblast Copper



**SWD** - Sandalwood



# AERA 4" ECHOCORE

RECESSED  
STATIC WHITE, FULL SPECTRUM, SOLA/DUO

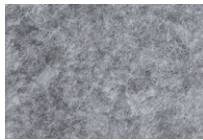


## Felt Finishes

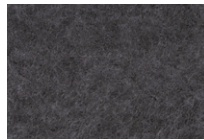
### Standard Color Options



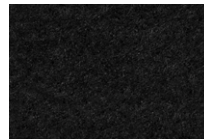
**FWN** - FROST WHITE



**FON** - FOG



**ION** - IRON



**TBN** - TRUE BLACK



**MDN** - MIDNIGHT BLUE



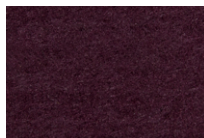
**LVN** - LAVENDER



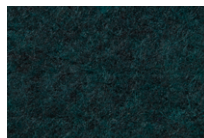
**LEN** - LATTE



**CYN** - CHERRY

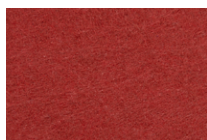


**PMN** - PLUM



**FGN** - FOREST GREEN

### Premium Color Options\*



**PKN** - PAPRIKA



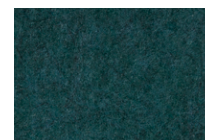
**OGN** - ORANGE



**LNN** - LEMON



**LMN** - LIME



**EGN** - EVERGREEN



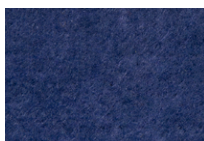
**CDN** - CLOUDY



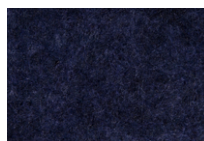
**LCN** - LICHEN



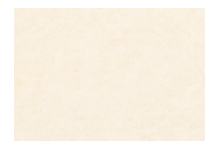
**SYN** - SKY



**BLN** - BLUEBERRY



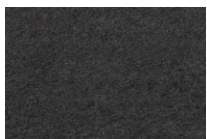
**NVN** - NAVY



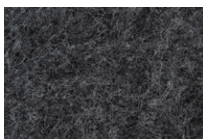
**IVN** - IVORY



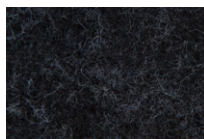
**SLN** - STEEL



**CNN** - CARBON



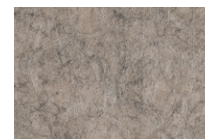
**GHN** - GRAPHITE



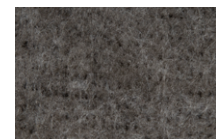
**CLN** - CHARCOAL



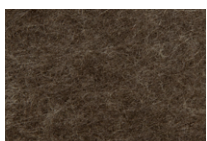
**BHN** - BLUSH



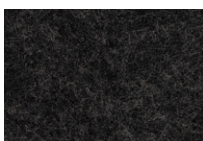
**CFN** - CAFÉ



**GRN** - GREIGE



**MON** - MOCHA



**ESN** - ESPRESSO

\*Please consult factory for more color options.

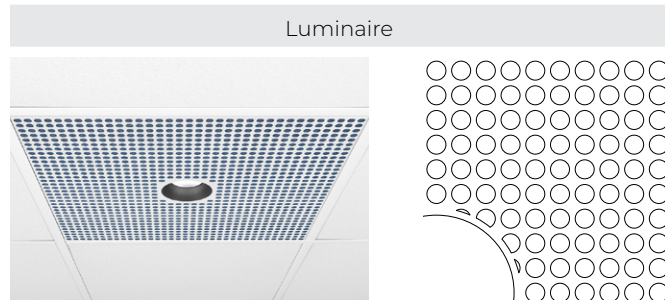
\*Lead time may vary.

# AERA 4" ECHOCORE

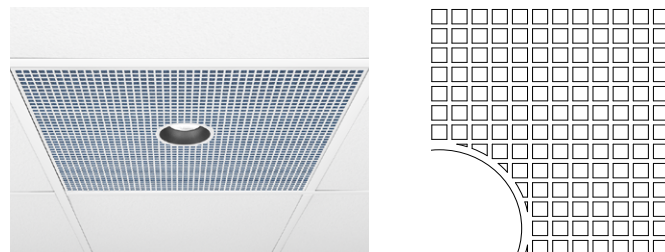
RECESSED  
STATIC WHITE, FULL SPECTRUM, SOLA/DUO



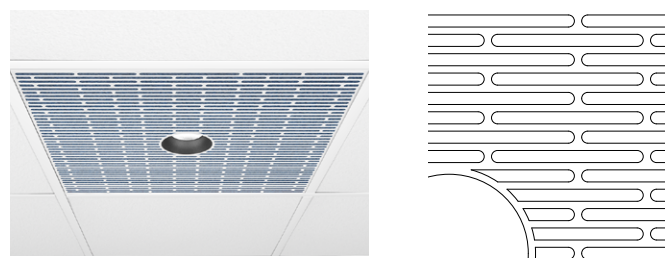
## Fixture Patterns



**ROU** - ROUND



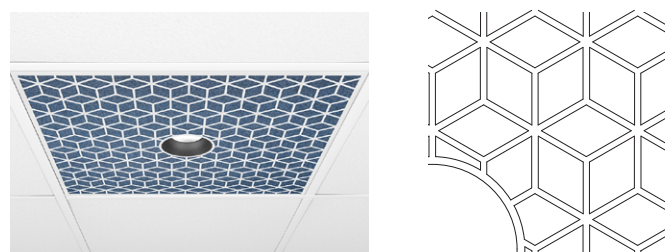
**SQU** - SQUARE



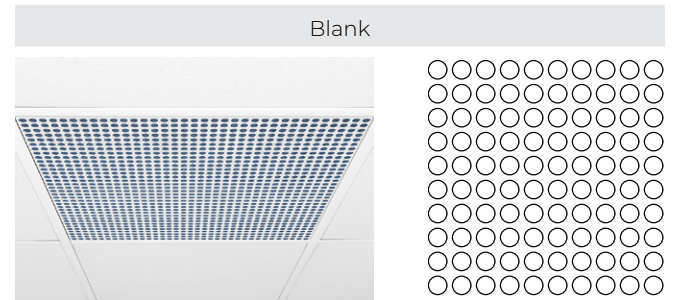
**LIN** - LINEAR



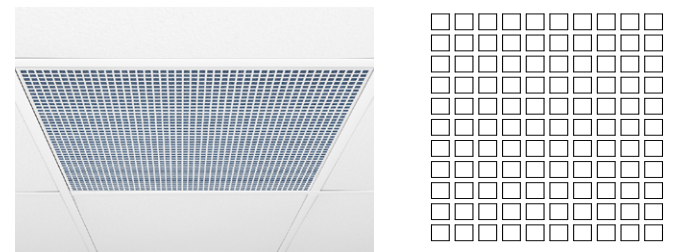
**SCP** - SCALLOP



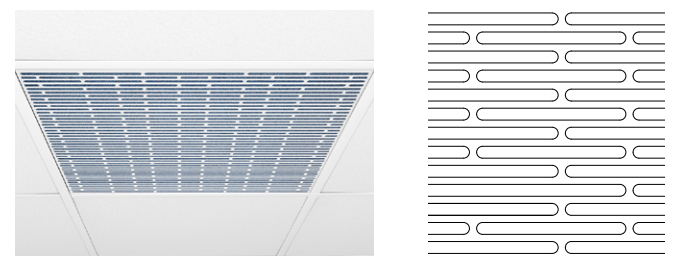
**CBC** - CUBIC



**ROU** - ROUND



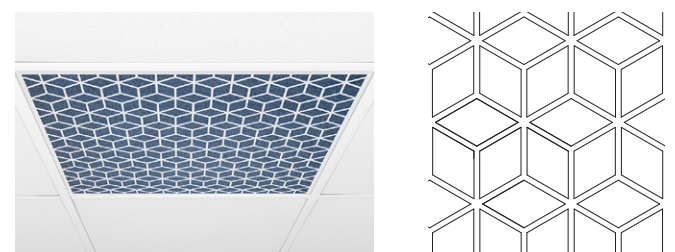
**SQU** - SQUARE



**LIN** - LINEAR



**SCP** - SCALLOP



**CBC** - CUBIC

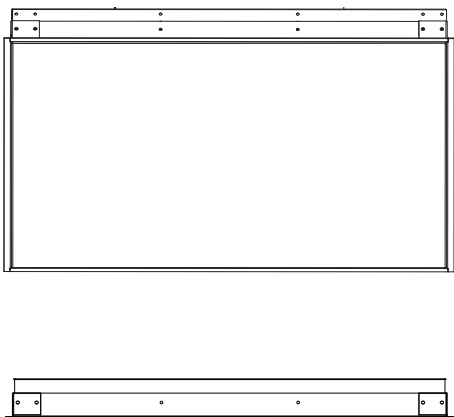
# AERA 4" ECHOCORE

RECESSED  
STATIC WHITE, FULL SPECTRUM, SOLA/DUO

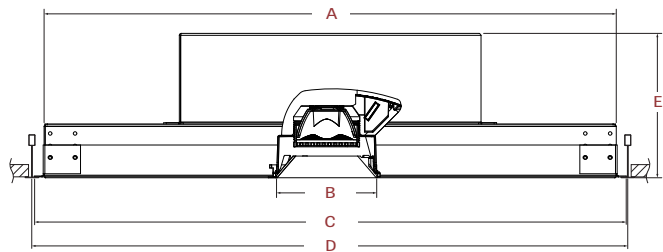
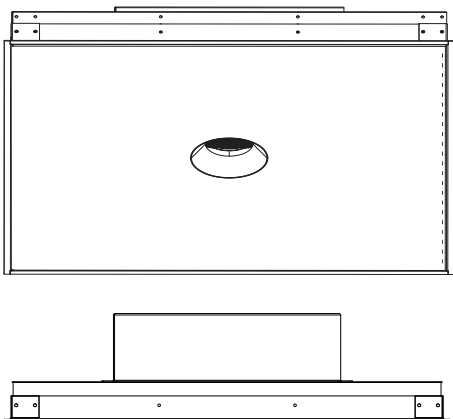


## Dimensions

BLANK



LUMINAIRE



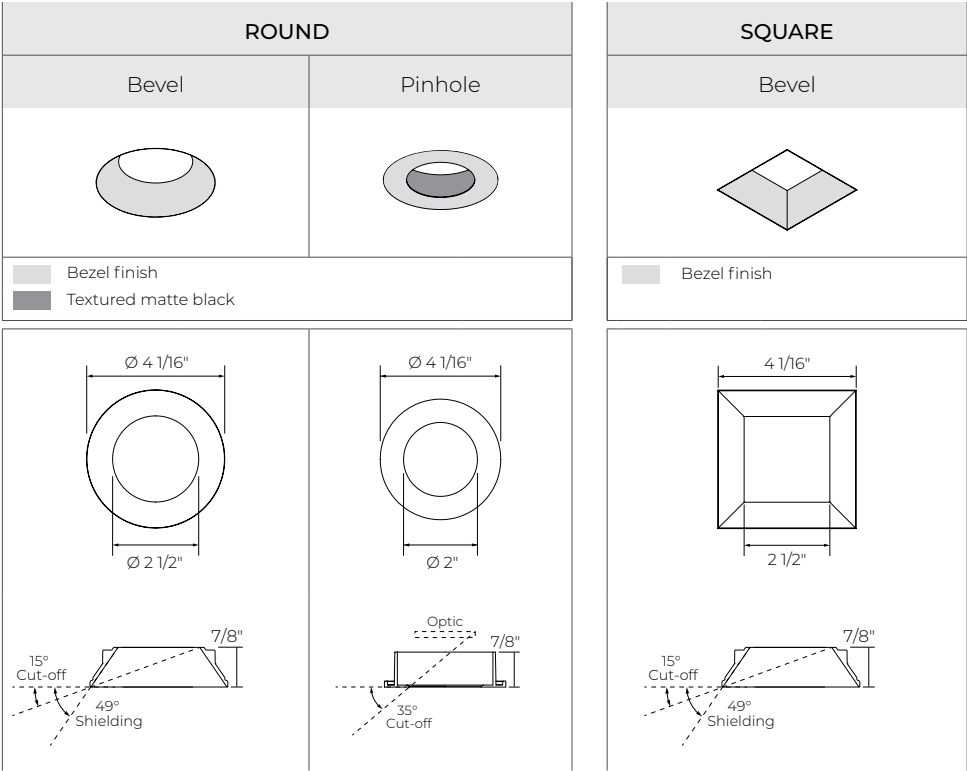
	FIXTURE LENGTH	LENS HOLE	WITH FLANGES	BETWEEN T-BARS	FIXTURE HEIGHT
	A	B	C	D	E
ROUND	23"	Ø 4 1/16"	23 13/16"	23 31/32"	5 13/16"
SQUARE		4 3/32"			
BLANK		X			2 5/32"

# AERA 4" ECHOCORE

RECESSED  
STATIC WHITE, FULL SPECTRUM, SOLA/DUO



## Bezel



# AERA 4" ECHOCORE

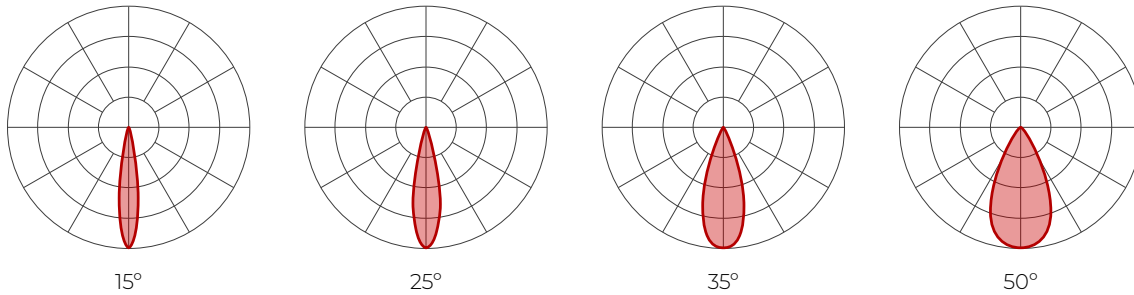


RECESSED

STATIC WHITE, FULL SPECTRUM, SOLA/DUO

## Photometrics

Please follow the multiplier tables to ensure correct lumen value. Beams, CCT, baffle styles, baffle colors, lensing and accessories will change the lumen value.



Delivered Lumens for Bevel Baffles - At 35K, with SDL lens option

CRI	80 CRI				90 CRI				97 CRI			
BEAM	15	25	35	50	15	25	35	50	15	25	35	50
Low - 14 W	1497	1538	1481	1451	1399	1437	1384	1356	1077	1106	1066	1044
Medium - 20 W	2089	2146	2066	2026	1952	2006	1931	1893	1503	1545	1487	1458
High - 28 W	2804	2882	2775	2719	2621	2693	2593	2541	2018	2074	1997	1957

Efficacy Based on Delivered Lumens

CRI	80 CRI				90 CRI				97 CRI			
BEAM	15	25	35	50	15	25	35	50	15	25	35	50
Low - 14 W	107	110	106	104	100	103	99	97	77	79	76	75
Medium - 20 W	104	107	103	101	98	100	97	95	75	77	74	73
High - 28 W	100	103	99	97	94	96	93	91	72	74	71	70

## MULTIPLIERS

### CCT

CCT	
2700K	0.9
3000K	0.95
3500K	1
4000K	1.05

For SOLA and DUO, please consult factory.

### Bazel

BAZEL VARIABLES	
White	1
Black	1
Round	1
Square	1
Bevel	1
Pinhole	0.92

### Optical Options

LENS AND LOUVERS	
No lens	1.1
Soft diffused lens	1
Frosted lens	0.8
Clear lens	1.1
Linear spread	0.84
Hex louvers	0.86



# AERA 4" ECHOCORE

RECESSED

STATIC WHITE, FULL SPECTRUM, SOLA/DUO



## 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%	

	Room dimensions under 300 sq ft			Room dimensions over 300 sq ft		
	GOOD 😊	BETTER 😊😊	BEST 😊😊😊	GOOD 😊	BETTER 😊😊	BEST 😊😊😊
<b>LUMINAIRE</b>						
Round EchoCore	33	18	14	50	28	22
Square EchoCore	33	18	14	50	28	22
<b>BLANK</b>						
EchoCore Blank	33	18	14	50	28	22

- 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:** Aera 4" Round EchoCore 2 ft x 2 ft Recessed  
**Room square feet:** L: 20 ft x W: 18 ft = 360 sq ft  
**Desired acoustical improvement:** Better = 28  
**Number of luminaires needed in the room:**  $360 \div 28 = 13$  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.

# AERA 4" ECHOCORE

RECESSED

STATIC WHITE, FULL SPECTRUM, SOLA/DUO



## Technical Specifications

### OPTIC

XPoint™ Refraction Technology optics provide precise optical control in a remarkably compact form. The core of this four-tier system is compound reflector with a central TIR element, just 1.06" deep. Beam angles are easily interchanged in the field.

### LIGHT SOURCE

In static white, custom arrays of mid-flux LED are available in 2700K, 3000K, 3500K, and 4000K with a minimum 80 CRI and an option for 90 CRI with elevated R9 value. Color consistency maintained to within 3 SDCM. LEDs operated at reduced drive current to optimize efficacy and lumen maintenance. 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. Optional BIOS or full spectrum LEDs can be incorporated in the fixture to increase Cyanosis Observation Index (COI) and assist in regulating circadian rhythms.



**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 54 or L03 when full spectrum or Duo is selected
- Feature 55 or L04 meets WELL glare category (b-c-d)
- Feature 58 or L07 when 90 CRI or above is selected

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, and smooth optics. 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](mailto:well@lumenwerx.com)**

### CHROMAWERX - TUNABLE WHITE

#### Chromawerx SOLA

Chromawerx SOLA is single-channel control that dims output while warming the color temperature in a pre-determined relationship. A simple analog control adjusts a specially populated LED array to emulate the effect of dimming a filament source.

#### Chromawerx DUO

Chromawerx DUO offers a two-channel control system which uses analog or digital protocols for synchronous control of both cool (6500K) to warm (2700K) LED arrays - maintaining a CRI above 90. The range of color DUO offers is useful for entraining circadian rhythms, stimulating alertness, and compensating for jet lag among other applications. The Chromawerx drivers are programmed to limit maximum light output and power usage across all color temperatures.

### ELECTRICAL

Factory-set, adjustable output current LED driver with universal (120-277VAC) input. Dimmable from 100% to 1% with 0-10V dimming control. Rated life (90% survivorship) of 50,000 hours at 50°C max. ambient (and 70°C max. case) temperature. At maximum driver load: Efficiency>84%, PF>0.9, THD<20%. Other specifiable options include Lutron Hi-Lume 1% Eco, and DALI protocol drivers. All of our standard 0-10V drivers are NEMA 410 compliant.

### PoE

Depending on the PoE manufacturer selected, Lumenwerx will install the node in factory as either integral to the luminaire, or as a remote module. Factory programming of the PoE node may or may not enable the following functionalities: lumen package, Duo (tunable white), emergency battery backup, and sensor integration. These must be addressed and evaluated on a case-by-case basis.

# AERA 4" ECHOCORE

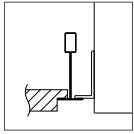
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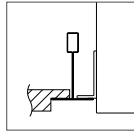


## MOUNTING OPTIONS

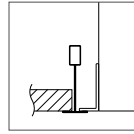
Recess mount into exposed or concealed T-Bar or Tegular grid ceiling.



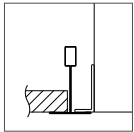
TC9  
Tegular 9/16"



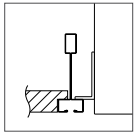
TG15  
Tegular 15/16"



TB9  
T-bar 9/16"



TB15  
T-bar 15/16"



ST  
Screw slot T-bar

## FINISH

Standard powder-coat paint available in textured matte white, aluminum and black. Custom colors are also available in over 30 colors.

## 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 by wiping down with a clean, dry or damp, soft, lint-free cloth, or vacuum.

## CONSTRUCTION

**Housing** - 20 gauge cold rolled steel housing with perforated cover and felt box with a white painted 18 gauge enclosure  
Interior brackets - Die formed cold rolled sheet steel 18 gauge thick

**Reflectors** - Cold rolled steel 0.0246" thick precisely die formed, 95% reflective matte white painted

**XPoint™ Refraction Technology optic** - Micro optical paths from the chip on board converge and then disperse in precise beam angles, resulting in a crisp and exacting light quality.

**LED Module** - Integral fixed COB module. 80, 90, and 95 CRI options. L80 > 60,000 hours

**Perforated panel** - Die cut aluminum panel (18 gauge aluminum sheet)

## WEIGHT

**Aera 4" Round & Square** - 18.3 lbs - 8.3 kg

**Aera 4" Blank** - 12 lbs - 5.4 kg

## OPTICAL OPTIONS



Linear Spread



Hex Louvers

## ENVIRONMENT

Ambient temperature at fixture location shall be within 0°C/32°F - 25°C/77°F, indoor dry or damp as well as outdoor damp use (canopies or marquees).

## CERTIFICATIONS

**ETL** - Rated for Indoor dry/damp locations. Conforms to UL Standard 1598 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