

State Office Tower (Leiopapa A Kamehameha) – Remove Lobby Ceiling and Install Lighting Fixtures

Background

The State Office Tower (also known as the Leiopapa A Kamehameha Building) first floor entry lobby false ceiling has been found to be damaged in multiple areas by termites and requires removal. The existing false ceiling will be removed to the existing structural ceiling. All existing HVAC, Power Distribution, and Fire Protection and other systems components will remain with existing functionality. This newly exposed ceiling volume is to be painted black. Since the lobby lighting is supported by the existing false ceiling, new lighting fixtures are required in this area. This project shall include procurement and installation of new suspended lobby light fixtures. Additionally, fire protection conduits and sprinkler piping shall be painted red to ensure its ready identification.

See Plan Sheets E-1 through E-3.

Scope of Work

Request a proposal for all work, complete and in-place, for the following:

- Removal and disposal of existing termite damaged false ceiling over the first-floor entry lobby as indicated on sheet E-1.
- Paint newly exposed ceiling volume space Black as indicated on plan Sheet E-2.
- Provide new light fixtures as indicated on plan Sheet E-3.
- Paint Fire Protection system conduit and water piping Red.

Notes

- For attached catalog cut, the items indicated are “or equal.” The catalog cuts do not mandate replacement of the exact brand and model of fixture. “Or equal” items shall match the appearance of the existing fixture and performance of the model indicated to the greatest extent possible.
- Contractor shall field verify existing conditions; to include electrical requirements and characteristics of existing fixtures and building power distribution prior to ordering any replacement electrical components.

Time of Performance

- Provide schedule one month after notice to proceed.
- 2-month construction schedule.

End

Attached: Exhibit A – Catalog Cut.


AERA 5" CYLINDER

PENDANT

DIRECT/INDIRECT, DIRECT



Declare.



6" Height
Bevel



8" Height
Bevel



12" Height
Pinhole

Beam Angles



15° 25° 35° 50° 80° 90° 80°-Up
Low UGR < 10 in 15°, 25°, 35°, and 50° beams

Performance

LUMEN OUTPUT ¹	WATTS	EFFICACY
1481 lm	14 W	106 lm/W
2066 lm	20 W	103 lm/W
2775 lm	28 W	99 lm/W
3163 lm	32 W	99 lm/W

¹ Lumen packages are assuming 3500K, 80 CRI, 35° beam, bevel baffle, SDL lens option.

Light Source

Static White
Full Spectrum
SOLA - Dim-to-Warm
DUO - Tunable White



COB

2 Step Color Binning
Up to 95 CRI

Driver

1%, 0.1% Dimming Available
0-10V, TRIAC, ELV, Lutron EcoSystem, DALI, DMX
Emergency Battery (optional)

True-to-size with a versatile minimalist aesthetic, Aera Cylinder luminaires are high-performance fixtures, delivering visually comfortable lighting suitable for a wide range of applications.




Mounting Options



Flat	Conduit	Direct	Deep
Power Cord Stem Swivel Stem	Power Cord Stem Swivel Stem	Power Cord Stem	Power Cord Stem

Aera Family (Refer to other spec sheets)




Downlight

		
2" / 3" / 4" Round / Square Recessed Adjustable	2" / 3" / 4" Round / Square Recessed	2" / 3" / 4" Round / Square Recessed Wall Wash

Multi-aperture

		
2" / 3" / 4" Round / Square Recessed Adjustable	2" / 3" / 4" Round / Square Recessed	2" / 3" / 4" Round / Square Recessed Wall Wash

Cylinder

		
2" / 3" / 4" / 5" 4" Seal Pendant Pendant Asymmetric Pendant Wall Wash	2" / 3" / 4" / 5" 4" Seal Wall Wall Asymmetric	2" / 3" / 4" / 5" 4" Seal Surface Surface Asymmetric Surface Wall Wash



AERA 5" CYLINDER

PENDANT

DIRECT/INDIRECT, DIRECT



Project: _____

Type: _____

Order Guide

LUMINAIRE ID	DISTRIBUTION	CYLINDER HEIGHT		CYLINDER FINISH	BAFFLE STYLE	BAFFLE FINISH	
AE5CYP							
AE5CYP - Aera 5" Cylinder Pendant	DI - Direct/Indirect D - Direct	DIRECT/INDIRECT ¹ 6IN - 6" 8IN - 8" 12IN - 12" CH#IN ³ - Custom height	DIRECT 6IN ² - 6" 8IN - 8" 12IN - 12"	FTMW - Textured matte white FTMB - Textured matte black FCHP - Champagne CF# - Custom finish, specify RAL#	BVL - Bevel PHL - Pinhole	FTMW - Textured matte white FTMB - Textured matte black FSPC - Specular FSSPC - Semi-specular FCHP - Champagne CF# - Custom finish, specify RAL#	
		¹ Only available with DR canopy option when specified with integral drivers. ² Not available with DMNC/DMRM canopy options when specified with integral drivers. ³ Specify height (#) in 1" increments only. Up to maximum 36". For minimum heights, see page 3.					
LENS *	LIGHT SOURCE	DIRECT BEAM	COLOR QUALITY	CRI	COLOR TEMP.	ACCESSORIES *	VOLTAGE
See page 3 for details						See page 3 for details	
At baffle (choose 1 option) Specify NOL for Pinhole SDL - Soft diffused lens, Solite FDL - Frosted diffused lens CL - Clear lens NOL - No lens	SW - Static white FS - Full spectrum SOLA - Dim-to-warm single channel control DUO - Tunable white 2-channel control	15DEG - 15° Narrow spot 25DEG - 25° Spot 35DEG - 35° Narrow flood 50DEG - 50° Wide flood 80DEG - 80° Very wide flood 90DEG - 90° Open flood 50DEG - 50° Wide flood	2STP ⁴ - 2 Step MacAdam Ellipse 3STP - 3 Step MacAdam Ellipse ⁴ Not available with full spectrum.	90CRI ⁵ - 90 CRI 95CRI - 95 CRI 80CRI ⁵ - 80 CRI ⁵ Not available with full spectrum.	27K - 2700K 30K - 3000K 35K - 3500K 40K - 4000K SOLA ⁶ - Dim-to-warm single channel control DUO ⁷ - Tunable white 2-channel control ⁶ 3500K to 2200K ⁷ 6500K to 2700K	At light element ^{8,9} (choose up to 2 options) LSDL - Soft diffused lens, Solite LFDL - Frosted diffused lens LS - Linear spread HEX ^{10,11} - Hex louver NA - None ⁸ Separate codes with a "*" if more than one is specified, e.g. LSDL+LS. ⁹ LSDL and LFDL cannot be combined. LS and HEX cannot be combined. ¹⁰ Not available with 80°/90° beam options. ¹¹ Not available with 32 W output.	120V - 120V 277V - 277V UNV - 120V-277V 347V ¹² - 347V ¹² Available with RD1 driver only. Please consult factory.
* LSDL or LFDL at light element cannot be combined with SDL, FDL, or CL at baffle. For SOLA/DUO, one of the following lenses must be specified: SDL, FDL, LSDL, or LFDL.							
DIRECT WATTAGE ¹³	INDIRECT WATTAGE ¹³	DIMMING ¹⁸		ELECTRICAL			
	Specify NA for Direct						
14W - 14 W output, up to 1538 lm 20W - 20 W output, up to 2146 lm 28W ^{14,15} - 28 W output, up to 2882 lm 32W ^{14,16} - 32 W output, up to 3285 lm ¹³ Lumen outputs are reduced with full spectrum, consult factory. ¹⁴ Not available with full spectrum. ¹⁵ Not available with integral drivers for a Direct/Indirect fixture. ¹⁶ Not available with integral drivers. ¹⁷ Not available with 32W direct wattage.	14W - 14 W output, up to 1102 lm 20W - 20 W output, up to 1550 lm 28W ^{14,15,17} - 28 W output, up to 2170 lm NA - Not applicable	INTEGRAL DI - 1% 0-10V ELV ¹⁹ - ELV 120V TRI ¹⁹ - TRIAC 120V ¹⁸ PoE (Power-over-Ethernet) compatible. Consult factory for details. ¹⁹ Available with 120V only.	REMOTE ²⁰ RD1 - 1% 0-10V RELV ²¹ - ELV 120V RTRI ²¹ - TRIAC 120V RLDE1 ²² - Lutron Hi-Lume 1% Eco ²⁰ A remote driver box is provided, see page 5 for details. ²¹ Available with 120V only. ²² On-site commissioning is required. ²³ For emergency battery, code will be like the following example: RD1+EB.	RDA ²² - DALI RELD1 - eldoLED 1% ECOdrive 0-10V RELD0 - eldoLED 0.1% SOLOdrive 0-10V +EB ²³ - Emergency battery	IC - 1 circuit 2C ²⁴ - 2 circuits ²⁴ Available with Direct/Indirect only.		
SOLA 25W - 25 W output, up to 1400 lm DUO 19W - 19 W output, up to 1100 lm	SOLA 12W - 12 W output, up to 482 lm DUO 11W - 11 W output, up to 305 lm NA - Not applicable	SOLA SD1 - Single 0-10V input SELV ¹⁹ - ELV 120V STR1 ¹⁹ - TRIAC 120V	SOLA RSD1 - Single 0-10V input RSELV ²¹ - ELV 120V RSTR1 ²¹ - TRIAC 120V	DUO RDMX ²² - DMX RDDA ²² - DALI DT6 RDDA8 ²² - DALI DT8 RDD1 - Dual 0-10V input for CCT/intensity RLD2 ²² - Lutron DALI-2 digital			
CANOPY TYPE ²⁵	CANOPY FINISH	SUSPENSION					
FLR ²⁶ - Flat round canopy, 4" octagonal junction box CDR ²⁶ - Conduit feed, round canopy DMNC ^{26,27} - Direct mount, new construction DMRM ^{26,27,28} - Direct mount, remodel DR ²⁹ - Deep round canopy ²⁵ See page 4 for details. ²⁶ Direct/Indirect requires a remote driver. ²⁷ 6" long cylinders require a remote driver. ²⁸ Single wiring entry only. No daisy chain connections allowed. ²⁹ Can accommodate up to 2 drivers.	FTMW - Textured matte white FTMB - Textured matte black FCHP - Champagne CF# - Custom finish, specify RAL#	POWER CORD ³⁰ BPC##IN - Black PVC WPC##IN - White PVC CF#F##IN ^{31,32,33} - Custom color fabric, consult factory ³⁰ Min 18" - max 72", specify length (##) in inches. ³¹ Not available with DI and SD1 dimming options. ³² Not available for DI fixture. ³³ Specify fabric color (#).	STEM ³⁴ BKS##IN - Textured black stem WHS##IN - Textured white stem BKSS##IN ³⁵ - Textured black swivel stem WHSS##IN ³⁵ - Textured white swivel stem CF#S##IN ³⁶ - Custom finish stem CF#SS##IN ^{35,36} - Custom finish swivel stem ³⁴ Min 10" - max 72", specify length (##) in inches. ³⁵ Not available with DMNC/DMRM/DR canopy options, or for 6" long cylinders when specified with FLR/CDR and integral driver. ³⁶ Specify RAL#.				



AERA 5" CYLINDER

PENDANT

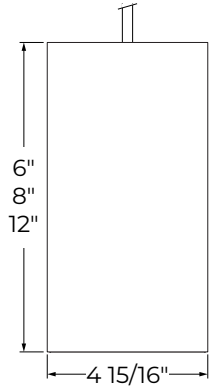
DIRECT/INDIRECT, DIRECT



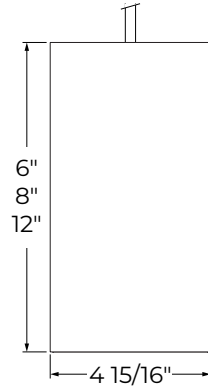
Dimensions

CYLINDER

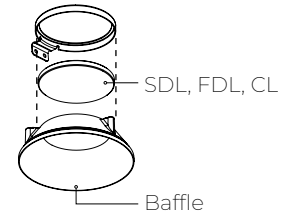
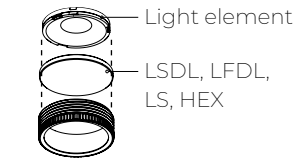
Direct/Indirect



Direct



Lens and Accessories



Minimum heights - Cylinder

Size	Distribution	Integral driver in cylinder	Integral driver in canopy or J-box	Remote driver
Ø 5"	Direct/Indirect	NA	6"	6"
	Direct	8"	6"	6"

*Consult factory for maximum heights.

BAFFLE

BVL Bevel	PHL Pinhole
<p>■ Baffle finish</p> <p>■ Textured matte black</p>	

AERA 5" CYLINDER

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DIRECT/INDIRECT, DIRECT



Mounting

CANOPY

INTEGRAL DRIVER					
Order code	FLR Flat round canopy, 4" octagonal junction box	CDR Conduit feed, round canopy	DMNC Direct mount, new construction	DMRM Direct mount, remodel	DR Deep round canopy
Canopy type					
Distribution	Direct				Direct/Indirect Direct
Canopy size	Ø 4 1/2" Height 3/8"	Ø 5 1/2" Height 1 15/16"	Ø 4 15/16" Height 2"		Ø 5 5/8" Height 1 3/8"
Suspension	Power cord, Stem, Swivel stem ¹ ¹ Not available for 6" long cylinders specified with FLR/CDR.		Power cord, Stem		
Min. height	6" (Driver in junction box or cylinder depending on driver) 8" (Driver in cylinder)		8"		6"
				Single wiring entry only. No daisy chain connections allowed.	D/1 - 2 drivers in canopy D - 1 driver in canopy or cylinder

REMOTE DRIVER					
Order code	FLR Flat round canopy, 4" octagonal junction box	CDR Conduit feed, round canopy	DMNC Direct mount, new construction	DMRM Direct mount, remodel	DR Deep round canopy
Canopy type					
Distribution	Direct/Indirect Direct				
Canopy size	Ø 4 1/2" Height 3/8"	Ø 5 1/2" Height 1 15/16"	Ø 4 15/16" Height 2"		Ø 5 5/8" Height 1 3/8"
Suspension	Power cord, Stem, Swivel stem		Power cord, Stem		
Min. height	6"				
				Single wiring entry only. No daisy chain connections allowed.	

AERA 5" CYLINDER

PENDANT

DIRECT/INDIRECT, DIRECT

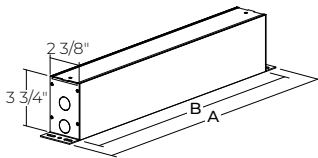


SUSPENSION

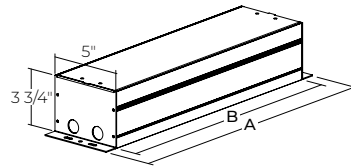
POWER CORD		STEM	
PVC	Fabric ^{1,2}	Stem	Swivel stem ^{3,4}
Power Cord Lengths (*)		Stem Lengths (*)	
Min 18" Max 72"	Min 18" Max 72"	Min 10" Max 72"	Min 10" Max 72" Max 45° tilt
¹ Not available with DI and SDI dimming options. ² Not available for DI fixture.		³ Not available with DMNC/DMRM/DR canopy options, or for 6" long cylinders when specified with FLR/CDR and integral driver. ⁴ The total stem length (*) includes the 1" swivel base located inside the canopy.	

REMOTE DRIVER BOX

RDB8 / RDB18 / RDB24



RDB24W



	RDB8	RDB18	RDB24	RDB24W
A	10"	20"	26"	26"
B	8"	18"	24"	24"
DRIVER	RDI - 1% 0-10V RELV - ELV 120V RTRI - TRIAC 120V SOLA RSD1 - Single 0-10V input RSELV - ELV 120V RSTRI - TRIAC 120V	RLDE1 - Lutron Hi-lume 1% Eco RDA - DALI RELD1 - eldoLED 1% ECOdrive 0-10V RELD0 - eldoLED 0.1% SOLOdrive 0-10V	Emergency battery (+EB) with the following driver options. RDI+EB - 1% 0-10V RELV+EB - ELV 120V RTRI+EB - TRIAC 120V DUC RDMX - DMX RDDA - DALI DT6 RDDA8 - DALI DT8 RDD1 - Dual 0-10V input for CCT/intensity RLD2 - Lutron DALI-2 digital	Emergency battery (+EB) with the following driver options. RLDE1+EB - Lutron Hi-lume 1% Eco RDA+EB - DALI RELD1+EB - eldoLED 1% ECOdrive 0-10V RELD0+EB - eldoLED 0.1% SOLOdrive 0-10V

AERA 5" CYLINDER

PENDANT

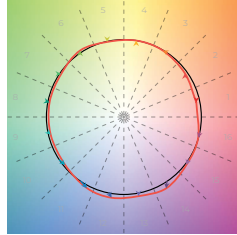
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Color Quality

COLOR QUALITY - 3500K

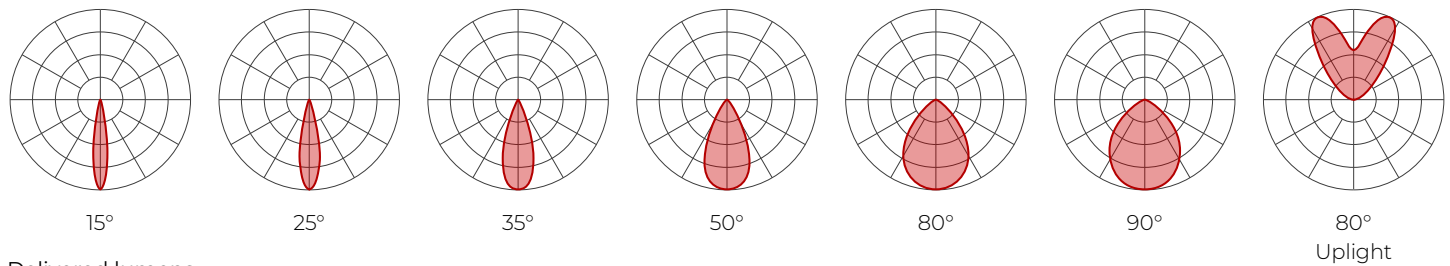
TM-30 R _r	90
TM-30 R _g	100
CRI	90
R9	> 50



Photometrics

PENDANT

Values calculated based on 3500K, bevel baffle, and SDL lens option.



Delivered lumens

BEAM	90 CRI							95 CRI							80 CRI						
	15°	25°	35°	50°	80°	90°	Uplight	15°	25°	35°	50°	80°	90°	Uplight	15°	25°	35°	50°	80°	90°	Uplight
14 W	1399	1437	1384	1356	1220	1220	1029	1077	1106	1066	1044	940	940	792	1497	1538	1481	1451	1306	1306	1102
20 W	1952	2006	1931	1893	1704	1704	1448	1503	1545	1487	1458	1312	1312	1114	2089	2146	2066	2026	1823	1823	1550
28 W	2621	2693	2593	2541	2287	2287	2027	2018	2074	1997	1957	1761	1761	1560	2804	2882	2775	2719	2447	2447	2170
32 W	2988	3070	2956	2896	2607	2607	NA	2300	2364	2276	2231	2007	2007	NA	3196	3285	3163	3099	2789	2789	NA

Efficacy

BEAM	90 CRI							95 CRI							80 CRI						
	15°	25°	35°	50°	80°	90°	Uplight	15°	25°	35°	50°	80°	90°	Uplight	15°	25°	35°	50°	80°	90°	Uplight
14 W	100	103	99	97	87	87	74	77	79	76	75	67	67	57	107	110	106	104	93	93	79
20 W	98	100	97	95	85	85	72	75	77	74	73	66	66	56	104	107	103	101	91	91	78
28 W	94	96	93	91	82	82	72	72	74	71	70	63	63	56	100	103	99	97	87	87	78
32 W	93	96	92	90	81	81	NA	72	74	71	70	63	63	NA	100	103	99	97	87	87	NA

MULTIPLIERS

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

CCT		BAFFLE STYLE AND COLOR			LENS * (At baffle)		ACCESSORIES * (At light element)	
2700K	0.9	Bevel	White	1	SDL - Soft diffused lens, Solite	1	LSDL - Soft diffused lens, Solite	1
3000K	0.95		Black	1				
3500K	1	Pinhole	White	0.92	FDL - Frosted lens	0.8	LFDL - Frosted lens	0.8
4000K	1.05		Black	0.92	CL - Clear lens	1.1	LS - Linear spread	0.84
					NOL - No lens	1.1	HEX - Hex louver	0.86

For SOLA and DUO, please consult factory.

* When more than one lens or accessory is specified, multiply together the value of each lens and/or accessory. e.g. NOL + LSDL + LS = 1.1 x 1 x 0.84 = 0.924

DIRECT/INDIRECT - EFFICACY CALCULATION

For Direct/Indirect performance values, follow the formula.

$$\frac{\left(\begin{matrix} \text{DIRECT} \\ \text{DELIVERED LM} \end{matrix} + \begin{matrix} \text{UPLIGHT} \\ \text{DELIVERED LM} \end{matrix} \right)}{\left(\begin{matrix} \text{DIRECT} \\ \text{WATTAGE} \end{matrix} + \begin{matrix} \text{UPLIGHT} \\ \text{WATTAGE} \end{matrix} \right)} = \text{EFFICACY}$$



AERA 5" CYLINDER

PENDANT

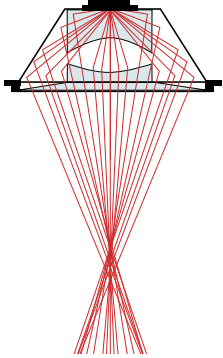
DIRECT/INDIRECT, DIRECT



Technical Specifications

OPTIC

XPoint™ Refraction Technology optics provide precise optical control in a remarkably compact form. Micro optical paths from the chip on board converge and then disperse in precise beam angles, resulting in a crisp and exacting light quality.



LIGHT SOURCE

Static white

Compact COB (Chip-On-Board) LED module, available in 2700K, 3000K, 3500K and 4000K with a choice of 80 CRI, 90 CRI, or 95 CRI, with elevated R9 value for 90 CRI and above. Color consistency is maintained to within 2 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.

Full spectrum

The full spectrum LED option offers improved color particularly in the cyan region which helps increase Cyanosis Observation Index (COI) and assist in regulating circadian rhythms. The cyan region in full spectrum LED is richer at the 480 nm range.

Chromawerx SOLA

Chromawerx SOLA is single-channel control that dims output while warming the color temperature in a pre-determined relationship. Two color temperature range options are offered: 3000K to 1800K, and 2700K to 1800K. 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 to warm LED arrays - maintaining a CRI above 90. Two color temperature range options are offered: 6500K to 2700K, and 5000K to 2700K. 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. When paired with DALI drivers (DDA/DDA8), color tuning follows a linear dimming curve.

ELECTRICAL

Unless otherwise specified, dimming down to 1%. At maximum driver load: efficiency > 84%, PF > 0.9, THD < 20%.

Integral: 0-10V, ELV, TRIAC

Remote: 0-10V, ELV, TRIAC, Lutron Hi-Lume 1% EcoSystem, DALI, eldoLED 0.1% SOLOdrive 0-10V, eldoLED 1% ECOdrive 0-10V, DMX, Lutron DALI-2 digital

Emergency battery option: Remotely-installed, long-life, high-temperature, maintenance-free, Bodine Lithium-Ion battery pack with self-test functionality, test switch and charge indicator. IOTA and Fulham options available upon request. Minimum of 90 minutes operation, and recharge time of 24 hours. For fixtures less than 10 W, the battery provides 6 W of emergency light output. For fixtures 10 W and over, the battery provides 10 W.

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), QUADRO (RGBW), emergency battery backup, and sensor integration. These must be addressed and evaluated on a case-by-case basis.

CONSTRUCTION

Housing: Die-cast and extruded aluminum

Power cord: Black and white PVC, custom color fabric. 18" to 72" standard length

Stem: Ø 1/2" rigid stem and swivel stem 10" to 72" standard length

Canopy: Flat, conduit feed, direct, and deep

Finish: Textured matte white, black, and champagne. Custom colors also available (provide RAL #). Specular and semi-specular finishes are also available for Baffle.

Heat sink: Die-cast aluminum

Baffle: Die-cast aluminum

Baffle style: Bevel and pinhole

AERA 5" CYLINDER

PENDANT

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WEIGHT

Direct/Indirect	Direct
6" : 3.4 lbs - 1.5 kg	6" : 2.5 lbs - 1.1 kg
8" : 4.5 lbs - 2 kg	8" : 3.5 lbs - 1.5 kg
12" : 5 lbs - 2.2 kg	12" : 4 lbs - 1.8 kg

LENS AND ACCESSORIES



Soft diffused lens, Solite



Frosted diffused lens



Clear lens



Linear spread



Hex louver

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).

CERTIFICATION

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

Declare: [LBC Red List Approved](#)

WARRANTY

Lumenwerx provides a five-year limited warranty of 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.