CLUSTER PI
RECESSED
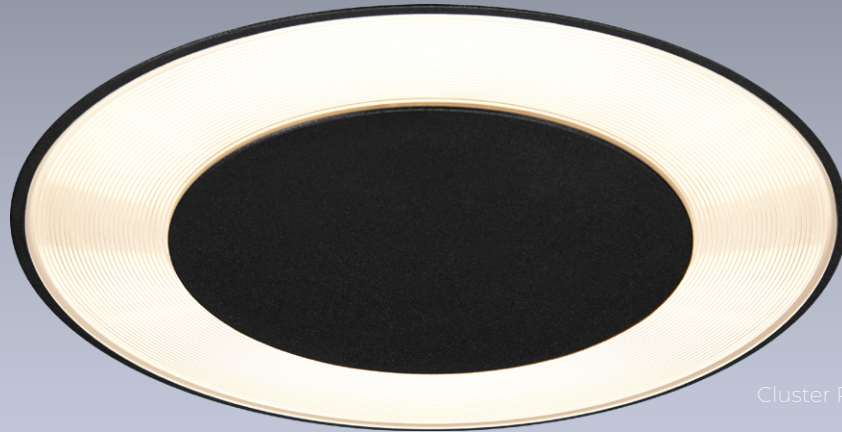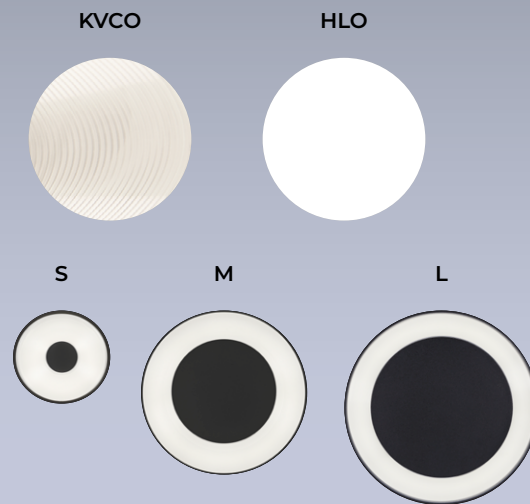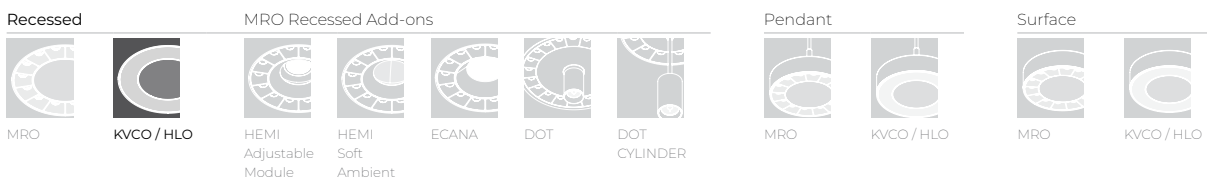### KVCO, HLO OPTICS

Lumenwerx

Cluster Pi M KVCO

Both Cluster Pi with HLO and Cluster Pi with KVCO™ integrate the beauty and quality of our Cluster family into circular fixtures featuring sophisticated optics and a timeless modernist esthetic. The luminaires occupy low profiles of under 2", are available in three sizes—Small (3.5"), Medium (6.5"), and Large (9")—and can be recessed, surface, or pendant mounted.

KVCO   **HLO**

S   **M**   **L**

5 YEAR WARRANTY

Cluster Pi Family (Refer to other spec sheets)

Recessed		MRO Recessed Add-ons					Pendant		Surface	
MRO	KVCO / HLO	HEMI Adjustable Module	HEMI Soft Ambient	ECANA	DOT	DOT CYLINDER	MRO	KVCO / HLO	MRO	KVCO / HLO

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CLUSTER-PI-RECESSED-KVCO-HLO-SPEC-REV1   January 24, 2024

PoE

CLUSTER PI
RECESSED
KVCO, HLO OPTICS

Lumenwerx

Project: _____

_____

Type: _____

Order Guide

1 - Housing

LUMINAIRE ID	TRIM STYLE	LIGHT SOURCE	INSTALLATION TYPE	MOUNTING OPTION [1]	VOLTAGE
		SW			
CLUPISR - Cluster Pi S Recessed **CLUPIMR** - Cluster Pi M Recessed **CLUPILR** - Cluster Pi L Recessed	**TRM** - Flanged trim **TLMP** - Trimless drywall mudplate **TLMW** - Trimless millwork	**SW** - Static white	**OF** - Open Frame Type Non-IC **RM** - Remodel Type Non-IC	**ASB** [2] - Adjustable standard bar hangers **FMB** [2] - Flush mount bars **ACB** [2] - Adjustable commercial bar hangers **AHC** [2] - Adjustable hat channel bars **NA** - None [1] See page 5 for more details. [2] Not available with RM installation type.	**120V** - 120V **277V** - 277V **UNV** - 120V-277V

LUMEN PACKAGE [3]			DIMMING [4]			
	KVCO	HLO	INTEGRAL DRIVER		REMOTE DRIVER [8]	
S	**360LM** - 360 lm	**400LM** - 400 lm	**D1** - 1% 0-10V **ELV** [5,6] - ELV 120V **TRI** [5,6] - TRIAC 120V **LDE1** [6,7] - Lutron Hi-Lume 1% Eco **DA** [7] - DALI	**ELD1** - eldoLED 1% ECOdrive 0-10V **ELD0** - eldoLED 0.1% SOLOdrive 0-10V **PEQ0** [7] - Lutron Hi-Lume Premier 0.1% EcoSystem	**RD1** - 1% 0-10V **RELV** [5,6] - ELV 120V **RTRI** [5,6] - TRIAC 120V **RLDE1** [6,7] - Lutron Hi-Lume 1% Eco **RDA** [7] - DALI	**RELD1** - eldoLED 1% ECOdrive 0-10V **RELD0** - eldoLED 0.1% SOLOdrive 0-10V **RPEQ0** [7] - Lutron Hi-Lume Premier 0.1% EcoSystem
M	**700LM** - 700 lm	**780LM** - 780 lm				
L	**1200LM** - 1200 lm	**1350LM** - 1350 lm				

[3] Delivered lumens at 90 CRI, 3500K.

[4] PoE (Power-over-Ethernet) compatible. Consult factory for details.
[5] Available with 120V only.
[6] Not available with Cluster Pi S.

[7] On-site commissioning is required.
[8] A remote driver box is provided, see page 3 for details.

2 - Light

LUMINAIRE ID	TRIM STYLE	LIGHT SOURCE	OPTIC
		SW	
CLUPISRL - Cluster Pi S Recessed **CLUPIMRL** - Cluster Pi M Recessed **CLUPILRL** - Cluster Pi L Recessed	**TRM** - Flanged trim **TLMP** - Trimless drywall mudplate **TLMW** - Trimless millwork	**SW** - Static white	**KVCO** - Kinetic Visual Comfort Optic **HLO** - High-Efficiency Lambertian Optic

CRI	COLOR TEMPERATURE	TRIM FINISH	CENTER BLANK FINISH
90CRI			
90CRI - 90 CRI	**27K** - 2700K **30K** - 3000K **35K** - 3500K **40K** - 4000K **50K** - 5000K	**FTMW** - Textured matte white **FTMB** - Textured matte black **CF#** - Custom finish, specify RAL#	**FTMW** - Textured matte white **FTMB** - Textured matte black **CF#** - Custom finish, specify RAL#

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CLUSTER-PI-RECESSED-KVCO-HLO-SPEC-REV1   January 24, 2024

PoE Power over Ethernet

CLUSTER PI
RECESSED
KVCO, HLO OPTICS
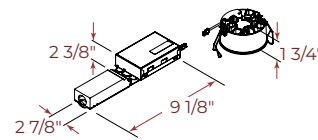
Lumenwerx

Overview

trim

center blank

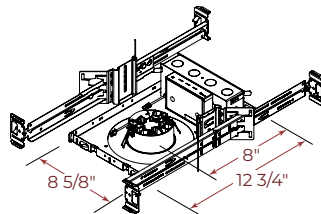## Housing

INSTALLATION TYPE

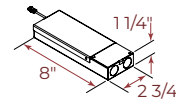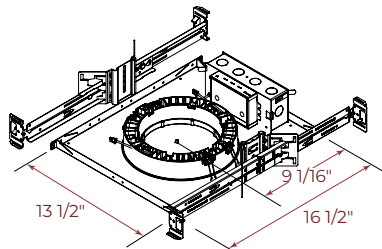| **OF** - Open frame	**RM** - Remodel

CLUSTER PI S

8"
8 5/8"
12 3/4"

2 3/8"
1 3/4"
2 7/8"
9 1/8"

CLUSTER PI M

6 3/4"
10 1/2"
14 3/4"

1 3/4"

CLUSTER PI L

9 1/16"
13 1/2"
16 1/2"

1 1/4"
8"
2 3/4"

REMOTE DRIVER BOX

RDB8 / RDB18

2 3/8"
3 3/4"
B
A

	RDB8	RDB18
A	10"	20"
B	8"	18"
DRIVER	**RD1** - 1% 0-10V **RELV** - ELV 120V **RTRI** - TRIAC 120V **RPEQ0** - Lutron Hi-lume Premier 0.1% EcoSystem	**RLDE1** - Lutron Hi-lume 1% Eco **RDA** - DALI **RELD1** - eldoLED 1% ECOdrive 0-10V **RELD0** - eldoLED 0.1% SOLOdrive 0-10V

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CLUSTER-PI-RECESSED-KVCO-HLO-SPEC-REV1 January 24, 2024

PoE Powered over Ethernet

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KVCO, HLO OPTICS

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CEILING DETAILS

CLUSTER PI S
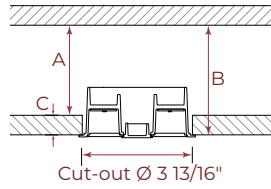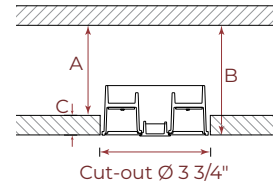
Cut-out Ø 3 13/16"

TRM - Flanged trim
TLMP - Trimless drywall mudplate

Cut-out Ø 3 3/4"

TLMW - Trimless millwork

CLUSTER PI M

Cut-out Ø 6 13/16"

TRM - Flanged trim
TLMP - Trimless drywall mudplate

Cut-out Ø 6 3/4"

TLMW - Trimless millwork

CLUSTER PI L

Cut-out Ø 9 1/16"

TRM - Flanged trim
TLMP - Trimless drywall mudplate

Cut-out Ø 9"
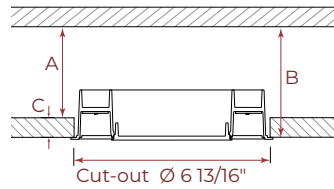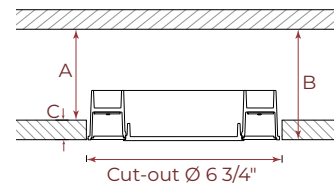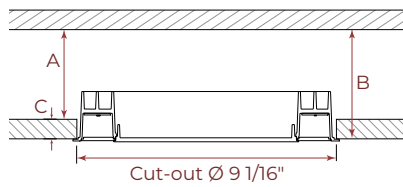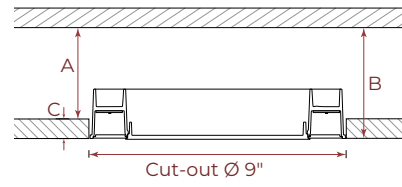
TLMW - Trimless millwork

	PLENUM CLEARANCE HEIGHT DIMENSIONS			C MAXIMUM CEILING THICKNESS
	A OPEN FRAME REMOTE & INTEGRAL	**B** REMODEL INTEGRAL	**B** REMODEL REMOTE	
S	4 1/4" (3 3/4" for FMB)	7 1/2"	3 3/4"	1 1/8"
M	4 1/4" (3 3/4" for FMB)	3 3/4"	3 3/4"	1 1/8"
L	4 1/4" (3 3/4" for FMB)	3 3/4"	3 3/4"	1 1/8"

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CLUSTER-PI-RECESSED-KVCO-HLO-SPEC-REV1   January 24, 2024

PoE

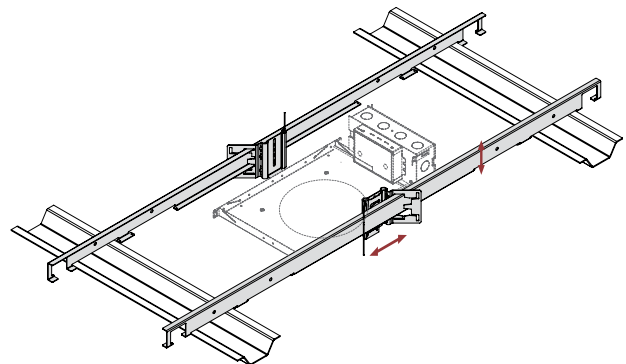# CLUSTER PI
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KVCO, HLO OPTICS

MOUNTING OPTIONS

ASB - Adjustable Standard Bar Hangers
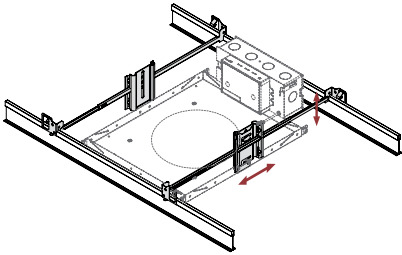
Adjustable Standard Bar hangers can be used in both commercial and residential applications and are adjustable to various heights in both Grid Ceiling and Drywall mounting. ASB hangers are less rigid and versatile than ACB hangers.

FMB - Flush Mount Bars
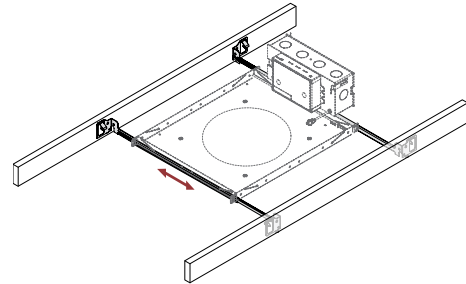
Flush Mount Bars are best used in residential applications, fitting snug to the surface and suitable for Wood, Metal, and Drywall mounting. The flush mounted bars are static and can't be adjusted.

ACB - Adjustable Commercial Bar Hangers
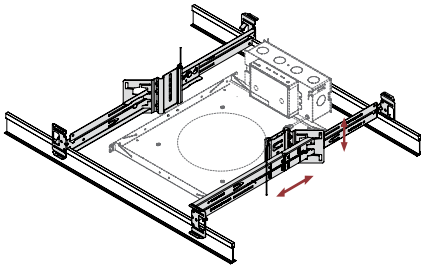
Adjustable Commercial Bar hangers can be used in both commercial and residential applications and are by far the most versatile mounting bar we offer with its adjustability to various heights. ACB hangers are suitable for Grid Ceiling, Drywall, Metal, Wood and Frame mounting.

· Extremely rigid
· Fits into C-Channel notches in a Butterfly Bracket

AHC - Adjustable Hat Channel Bars

Adjustable Hat Channel bars can be used in both commercial and residential applications and come with a butterfly clip to adjust to various heights. AHC bars can be hung downward by 90 degrees in vertical position, and once wired, can be shifted onto the horizontal mounting plane. AHC bars are suitable for both Drywall and wood ceiling applications.
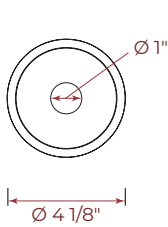
CLUSTER PI
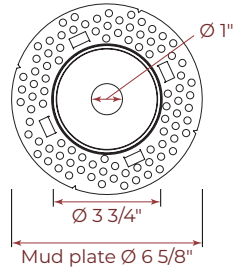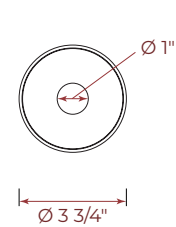## RECESSED
KVCO, HLO OPTICS

Light

CLUSTER PI S

Ø 1"

Ø 4 1/8"

TRM - Flanged trim

Ø 1"

Ø 3 3/4"

Mud plate Ø 6 5/8"

TLMP - Trimless drywall mudplate

Ø 1"

Ø 3 3/4"

TLMW - Trimless millwork

CLUSTER PI M

Ø 4 1/4"

Ø 7 1/8"

TRM - Flanged trim

Ø 4 1/4"

Ø 6 3/4"

Mud plate Ø 9 5/8"

TLMP - Trimless drywall mudplate

Ø 4 1/4"

Ø 6 3/4"

TLMW - Trimless millwork

CLUSTER PI L

Ø 6 1/2"

Ø 9 3/8"

TRM - Flanged trim

Ø 6 1/2"

Ø 9"

Mud plate Ø 12"

TLMP - Trimless drywall mudplate

Ø 6 1/2"

Ø 9"

TLMW - Trimless millwork

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CLUSTER-PI-RECESSED-KVCO-HLO-SPEC-REV1   January 24, 2024

PoE
Power over Ethernet
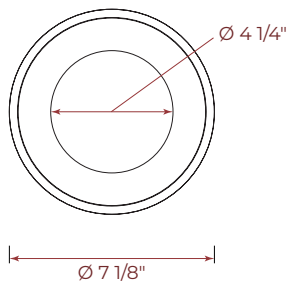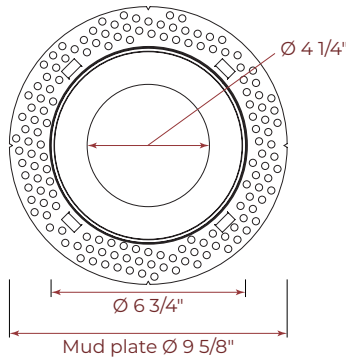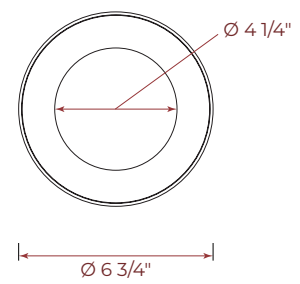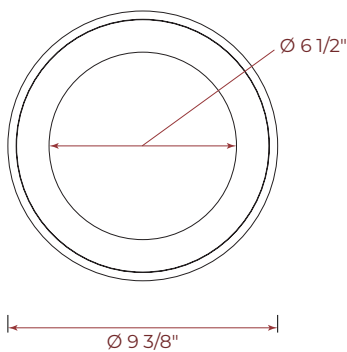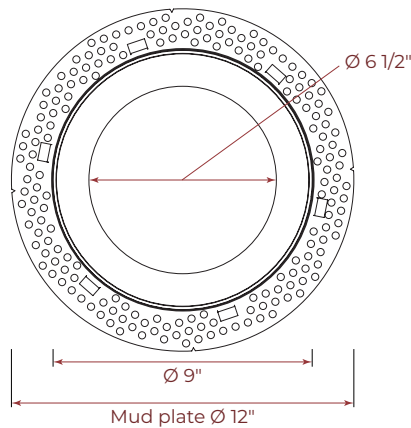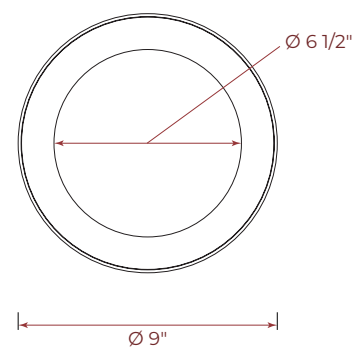
CLUSTER PI

RECESSED
KVCO, HLO OPTICS

Photometrics

Values calculated based on 3500K and 90 CRI for all optics.

KVCO
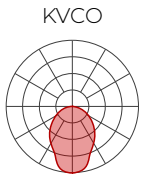
	LM	W	LM/W
S	360	4.9	73
M	700	8.2	85
L	1200	16.7	72

HLO
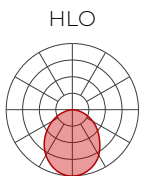
	LM	W	LM/W
S	400	4.9	82
M	780	8.2	95
L	1350	16.7	81

MULTIPLIER TABLE

Use the table to get results for different color temperatures for all photometric tables.

Multiplier - CCT/CRI

CCT	WATTS 90 CRI	LPW 90 CRI
2700K	1.04	0.95
3000K	1.02	0.98
3500K	1	1
4000K	0.97	1.02
5000K	0.96	1.05

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CLUSTER-PI-RECESSED-KVCO-HLO-SPEC-REV1   January 24, 2024

Technical Specifications

OPTICS

Kinetic Visual Comfort Optic™ (KVCO™)
The Kinetic Visual Comfort Optic™ is finely crafted with a series of concentric grooves serving as light-bending prisms that redirect parallel rays to a common focal length. The resulting beams are precise and clean. The optic can change in appearance depending on the lighting conditions in its immediate surroundings.

High-Efficiency Lambertian Optic (HLO)
The High-Efficiency Lambertian Optic (HLO) is engineered with reflective sidewalls that distribute LED output across acrylic shielding, delivering soft, diffused beams. To negotiate the curves of Lumenwerx rounded fixtures, the HLO is equipped with proprietary SupremeGrip™ technology, which keeps the optic securely in place.

LIGHT SOURCE

Custom array of mid-flux LEDs are cartridge-mounted with quick-connect wiring to facilitate service and thermal management. Available in 2700K, 3000K, 3500K, 4000K, and 5000K with 90 CRI and elevated R9 value. Color consistency 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.

ELECTRICAL

Unless otherwise specified, dimming down to 1%. At maximum driver load: efficiency>84%, PF>0.9, THD<20%.
Integral driver: 0-10V, ELV, TRIAC, Lutron Hi-Lume EcoSystem, DALI, eldoLED 0.1% SOLOdrive 0-10V, eldoLED 1% ECOdrive 0-10V
Remote driver: 0-10V, ELV, TRIAC, Lutron Hi-Lume EcoSystem, DALI, eldoLED 0.1% SOLOdrive 0-10V, eldoLED 1% ECOdrive 0-10V

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 aluminum
Lens: Acrylic
Mounting frame: Galvanised steel
Finish: Textured matte white and matte black. Custom colors also available (provide RAL #).

WEIGHT

	Open frame	Remodel
Cluster Pi S	3 lbs - 1.3 kg	0.53 lbs - 0.24 kg
Cluster Pi M	4.3 lbs - 2 kg	1.25 lbs - 0.6 kg
Cluster Pi L	5 lbs - 2.25 kg	1.8 lbs - 0.8 kg

CERTIFICATION

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 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.

ETL
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PoE
Power over Ethernet