MOONRING 1.5 & 3

THE HARMONIC COLLECTION | ACOUSTICS

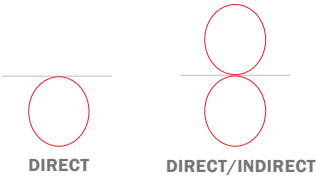
MR1.5A/MR3A | SUSPENDED | CEILING MOUNT

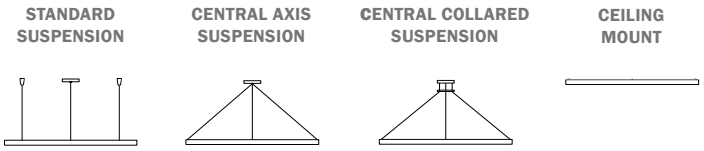
SPECIFICATIONS

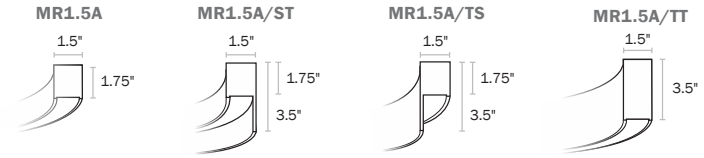
PROFILE	Ring — 1.5in. & 3in. aperture — 1.5in. to 3in. wall height
SIZES	2ft. - 6ft. diameter
LED OUTPUT	1,500lm - 15,925lm
CCT/CRI	2700K/3000K/3500K/4000K • 80 or 90+ CRI Tunable White (2700K – 6500K) • RGB and RGB+W
DIMMING/ DRIVER	Remote Driver: 0-10V, DALI, DMX, eldoLED, Lutron®, PoE (Molex, Igor, NuLEDS). Dimming to 0% for select models.
POWER	22W - 404W per ring
INPUT	120VAC, 277VAC, or 347VAC
OPTICS	Diffused acrylic lens — direct/indirect Optional clear (high transmission) lens — indirect
FINISHES	17 standard finishes at no extra charge Custom finishes available Two-tone paint *(select models available with extra charge)*
MATERIAL	6061 Extruded & Welded Aluminum
ENVIRONMENT	Indoor, dry location only

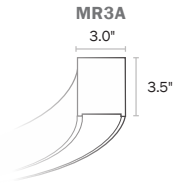
*Safety and Performance information available on last page. Weights and other specifications available on pages 4-10.

DISTRIBUTIONS & PROFILES









Not to scale. Dimensions are nominal. Consult factory for CAD drawing

Rev 050625

ALW

PRODUCT SPECIFICATION SHEET

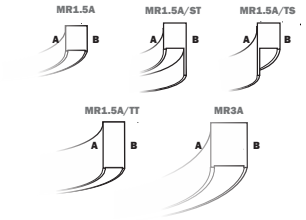
	–	–	–				–	–	–				–	–	–	–	–	–		–		–	–						
1		2	3	4a	4b	4c		5	6		7a	7b	7c		8	9	10	11	12		13a		13b		14	15a					

	–
	15b 15c

EXAMPLE: MR3A — D3 — SS — MED/90/3500 — V00 — LENS — LOW/90/3500K — V00 — HT — N — ACW — N — BA — SW — UNV — EMB — N — SB
1 2 3 4 5 6 7 8 9 10 11 12 13A 13b 14 15a 15b 15c

1. BASE MODEL (CHOOSE 1)

- ☐ **MR1.5A** 1.5", A: short, B: short
- ☐ **MR1.5A/ST** 1.5", A: short, B: tall
- ☐ **MR1.5A/TS** 1.5", A: tall, B: short
- ☐ **MR1.5A/TT** 1.5", A: tall, B: tall
- ☐ **MR3A** 3.0",A: tall B: tall



2. NOMINAL SIZE* (CHOOSE 1)

- ☐ **D2** 2' (24")
- ☐ **D3** 3' (36")
- ☐ **D4** 4' (48")
- ☐ **D5** 5' (60")
- ☐ **D6** 6' (72")

*Dimensions refer to ring outer diameter. Custom diameters available upon request

3. MOUNTING (CHOOSE 1)

- ☐ **SS** Standard Suspension
- ☐ **CAS** Central Axis Suspension
- ☐ **CCS** Collared Central Suspension
- ☐ **CM**[1] Ceiling Mounted

[1]Not available with indirect lamping

4. LED LAMPING - DIRECT (CHOOSE 1 FOR EACH)

A. OUTPUT (MR1.5/MR3)[2]
- ☐ **MIN** (238/376 lm/ft)
- ☐ **LOW** (358/565 lm/ft)
- ☐ **MED** (477/753 lm/ft)
- ☐ **HI**[3] (716/1129 lm/ft)
- ☐ **TUNE**[4] (27K-65K, 709/751 lm/ft)
- ☐ **RGB**[4] (278/295 lm/ft)
- ☐ **RGBW**[4] (3500K, White, 510/540 lm/ft)
- ☐ **CSTM/____**[5] (Enter lumens in product code above. Ex. 0100=100lm/ft)

B. CRI[6]
- ☐ **NO CRI/CCT***
- ☐ **80**
- ☐ **90**

C. CCT[6]
- ☐ **2700K**
- ☐ **3000K**
- ☐ **3500K**
- ☐ **4000K**

*Choose when TUNE, RGB, or RGBW is desired output
[2]For delivered lumens and watts, see "Performance Details"
[3]Refer to additional footnotes below for more information
[4]TUNE and RGBW only available in 80CRI.
[5]Consult ALW for custom lumen packages
[6]CRI/CCT options not applicable for TUNE, RGB, or RGBW lamping

5. REMOTE DRIVER - DIRECT[7,8] (CHOOSE 1)

- ☐ **V00** (0-10V, dim to 0%)
- ☐ **V01** (0-10V, dim to 1%)
- ☐ **V05** (0-10V, dim to 5%)
- ☐ **P01** (ELV/TRIAC phase, dim to 1%)
- ☐ **LDE1** (Lutron ECOSYS1, 0-10V, dim to 1%)
- ☐ **ELDV0** (eldoLED, 0-10V, dim to 0%)
- ☐ **DALI** (DALI, dim to 0%)
- ☐ **DMX** (DMX, dim to 0%)
- ☐ **POEM** (POE Molex)
- ☐ **POEI** (POE IGOR)
- ☐ **POEN** (POE Nuleds)
- ☐ **POE**[9] (POE Ready)

[7]Driver specifications provided upon request.
See page 11 for driver details
[8]Refer to all 'Driver', 'Sensor' and lamping charts for compatibility
[9]Choose desired PoE solution not listed. Contact customer service to review and confirm the PoE system of your choice

6. LENS - DIRECT

- ☐ **LENS** Extra diffuse lens

7. LED LAMPING - INDIRECT (CHOOSE 1 FOR EA)

- ☐ **N** (None)

A. OUTPUT (MR1.5/MR3)[2]
- ☐ **MIN** (267/422 lm/ft)
- ☐ **LOW** (400/633 lm/ft)
- ☐ **MED** (535/845 lm/ft)
- ☐ **HI**[3] (N/A)
- ☐ **TUNE**[4] (27K-65K, 789/846 lm/ft)
- ☐ **RGB**[4] (311/540 lm/ft)
- ☐ **RGBW**[4] (3500K, White, 569/608 lm/ft)
- ☐ **CSTM/____**[5] (Enter lumens in product code above. Ex. 0100=100lm/ft)

B. CRI[6]
- ☐ **NO CRI/CCT**
- ☐ **80**
- ☐ **90**

C. CCT[6]
- ☐ **2700K**
- ☐ **3000K**
- ☐ **3500K**
- ☐ **4000K**

*Choose when TUNE, RGB, or RGBW is desired output
[2]For delivered lumens and watts, see "Performance Details"
[3]Refer to additional footnotes below for more information
[4]TUNE and RGBW only available in 80CRI
[5]Consult ALW for custom lumen package.
[6]CRI/CCT options not applicable for TUNE, RGB, or RGBW lamping

8. REMOTE DRIVER - INDIRECT[7,8] (CHOOSE 1)

- ☐ **N** (None)
- ☐ **V00** (0-10V, dim to 0%)
- ☐ **V01** (0-10V, dim to 1%)
- ☐ **V05** (0-10V, dim to 5%)
- ☐ **P01** (ELV/TRIAC phase, dim to 1%)
- ☐ **LDE1** (Lutron ECOSYS1, 0-10V, dim to 1%)
- ☐ **ELDV0** (eldoLED, 0-10V, dim to 0%)
- ☐ **DALI** (DALI, dim to 0%)
- ☐ **DMX** (DMX, dim to 0%)
- ☐ **POEM** (POE Molex)
- ☐ **POEI** (POE IGOR)
- ☐ **POEN** (POE Nuleds)
- ☐ **POE**[9] (POE Ready)

[7]Driver specifications provided upon request.
See page 11 for driver details
[8]Refer to all 'Driver', 'Sensor' and lamping charts for compatibility
[9]Choose desired PoE solution not listed. Contact customer service to review and confirm the PoE system of your choice

9. LENS - INDIRECT (CHOOSE 1)

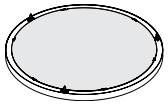
- ☐ **N** None
- ☐ **LENS** Extra diffuse lens
- ☐ **HT**[10] High transmission, near-clear lens

[10]High transmission lens increases lumen output by ~14%, but LED chip is visible. Recommended only when top-side of fixture is not directly visible

10. TOP COVER[11] (CHOOSE 1)

- ☐ **N** None
- ☐ **SLD** Solid top cover

[11]A top cover may be specified if the fixture is visible from above. Stability struts are built for larger MoonRing fixtures (D4, D5, D6) to properly support the acoustic inserts. Struts are not visible from underneath the fixture. There are no struts on D2 and D3 models, however, top covers may still be specified for consistency



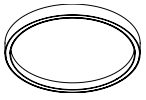
11. ACOUSTIC FINISH* (CHOOSE 1)

- ☐ **ACW** Crystal White
- ☐ **AMW** Marble White
- ☐ **AHG** Heather Gray
- ☐ **ACG** Charcoal Gray
- ☐ **AJB** Jet Black
- ☐ **AIW** Ivory White
- ☐ **AAG** Aloe Green
- ☐ **ATO** Titan Orange
- ☐ **ASR** Scarlet Red
- ☐ **AMB** Midnight Blue

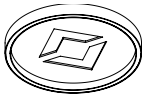
*See page 7 for larger swatches and additional information
** For all white and light acoustic finishes, Solid Top Cover (SLD) is provided by default as certain ambient lighting conditions can make back hardware visible from the bottom

12. ACOUSTIC DESIGN (CHOOSE 1)

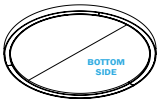
- ☐ **N** None. Choose for a solid acoustic insert.
- ☐ **DCSTM** Custom Design (See template on page 5)



N= Solid Acoustic



DCSTM= Custom Design Cutout



For diameters greater than 4', acoustic panels will be installed in 2 pieces and will have visible seam

CONTINUES ON NEXT PAGE →

PRODUCT SPECIFICATION SHEET

13. FINISH* (CHOOSE 1 FOR EACH WALL)

A B

STANDARD FINISHES

- ☐ ☐ **SW** Satin White
- ☐ ☐ **SB** Satin Black
- ☐ ☐ **AS** Aluminum Silver Anodized Effect
- ☐ ☐ **TB** Textured Black
- ☐ ☐ **BA** Brushed Aluminum

PREMIUM FINISHES

- ☐ ☐ **__** See chart on page 7 for premium finishes. Manually type in the finish code (Ex: OB = Oil-Rubbed Bronze)

SPECIAL ORDER FINISHES*

- ☐ ☐ **RAL____** Specify RAL Classic Color (Ex: RAL 3003)
- ☐ ☐ **CCM____** Custom Color Match

*A: Inside Wall, B: Outside Wall. Wall diagram on page 7 Leave "B" unselected for MR1.5 SS, TT, and MR3. Manually type in the finish code for special order finishes.

14. VOLTAGE (CHOOSE 1)

- ☐ **UNV** Universal Voltage (120VAC-277VAC)
- ☐ **347** 347 Volt *(Driver options may be limited. Not available with EMB)*

15a. EMERGENCY OPTIONS (OPTIONAL, CHOOSE 1)

- ☐ **EMB** Emergency Battery *(Not available in 347 V)*
- ☐ **EMC**[12] Emergency Circuit

[12] For additional EMC/EMC quantity, consult ALW for more details

15b. SENSOR OPTIONS* (OPTIONAL, CHOOSE 1)

- ☐ **N** (None)
- ☐ **WLNX/__** (Cooper Wavelinx)
- ☐ **ENLGHT/__** (Enlighted)
- ☐ **FCJS/__** (Lutron)
- ☐ **FCJS/S/__** (Lutron, occ/daylight sensor)
- ☐ **MLX** (Molex POE)
- ☐ **NLT** (nLight wired)
- ☐ **NLTAIR** (nLight AIR wireless)
- ☐ **OS/PH/HV/__** (Hubbel WASP remote occ/daylight sensor)

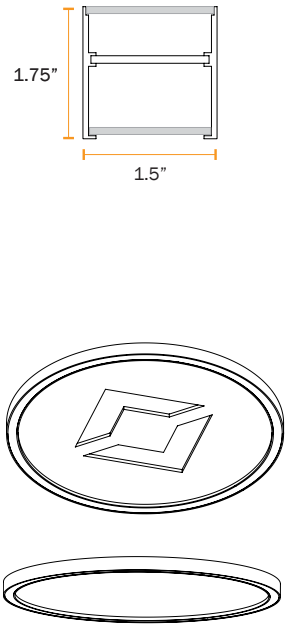
*Default quantity is 1 sensor per 8ft, type alternate quantity into product code above if desired. Sensor descriptions available on page 7.
*Not all sensors are compatible with all drivers. See 'Drivers'

15c. ADDITIONAL OPTIONS (OPTIONAL)

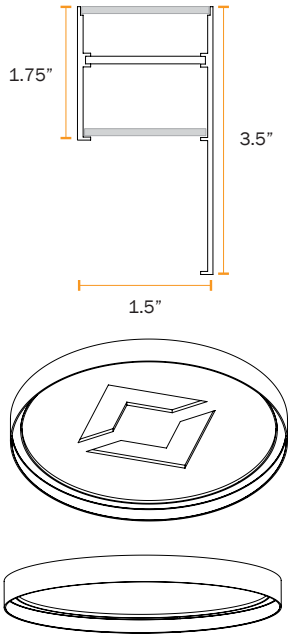
- ☐ **SB** Seismic Bracing

MECHANICAL DIAGRAMS

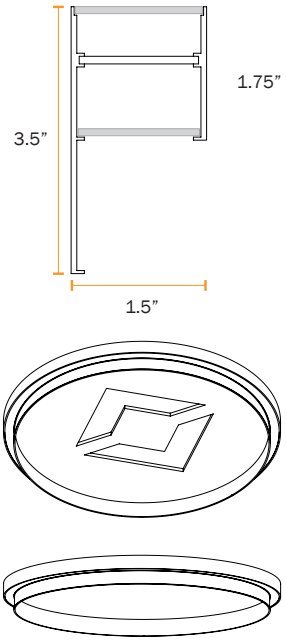
MR1.5A
Inside Short Wall
Outside Short Wall



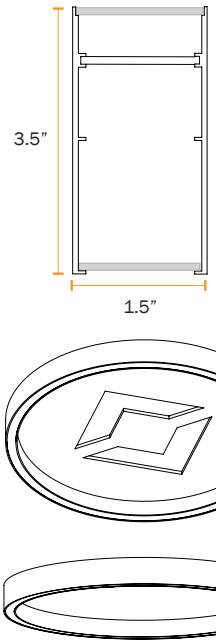
MR1.5A/ST
Inside Short Wall
Outside Tall Wall

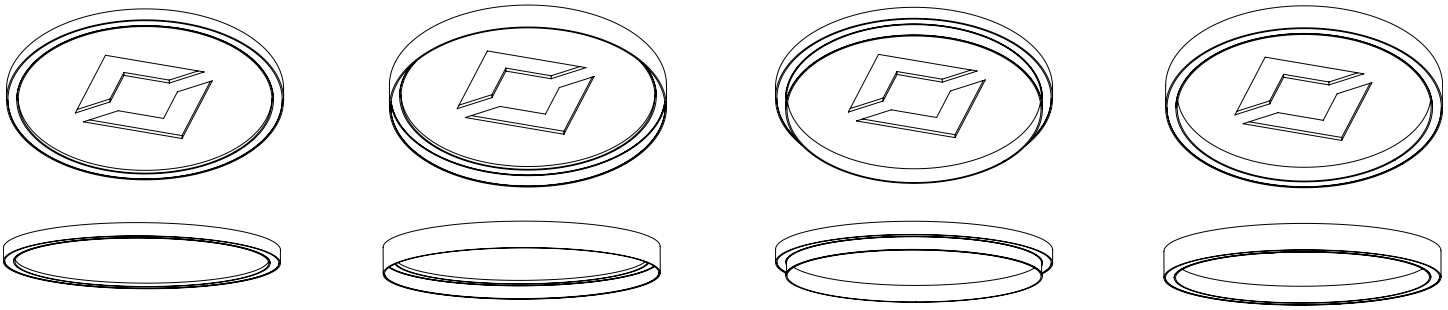


MR1.5A/TS
Inside Tall Wall
Outside Short Wall

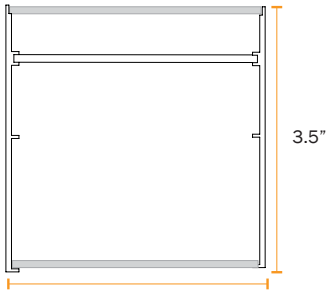


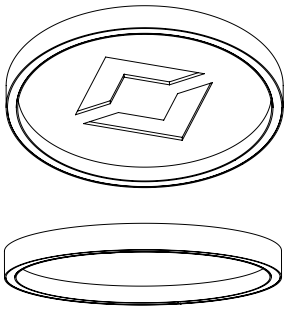
MR1.5A/TT
Inside Tall Wall
Outside Tall Wall

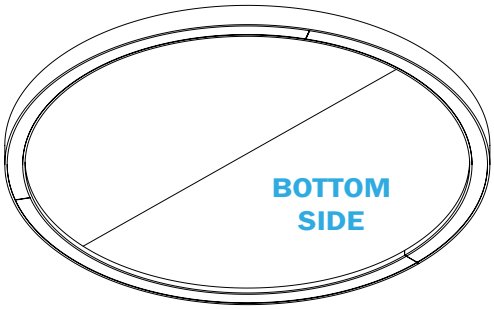




MR3A
Inside Tall Wall
Outside Tall Wall





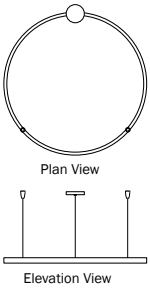


For diameters greater than 4’, acoustic panels
will be installed in 2 pieces and will have visible seam

MOUNTING OPTIONS

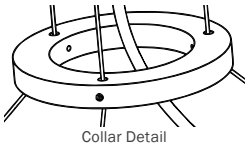
STANDARD SUSPENSION (SS)

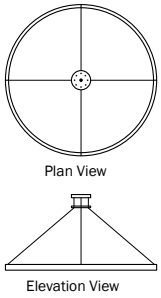
- 4.5" white canopy per power feed location
- Bullet mount
- 8’ aircraft cable (longer suspension cables available upon request)
- 2" white canopy (for use with T-bar mounting) per suspension point



CENTRAL COLLARED SUSPENSION (CCS)

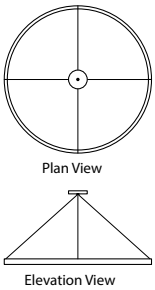
- 5" white central axis canopy
- 8’ aircraft cable. 18” minimum distance from ceiling to fixture
- 5" collared ring (color matches specified body finish) that all aircraft cables and power feeds route through.





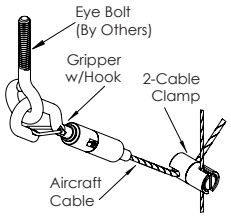
CENTRAL AXIS SUSPENSION (CAS)

-4.5" white central axis canopy per fixture that all aircraft cables/power feeds route into, as shown.
- 8’ aircraft cable. 18” minimum distance from ceiling to fixture.



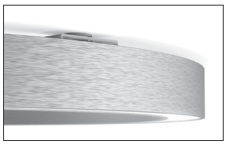
SEISMIC BRACING (SB)

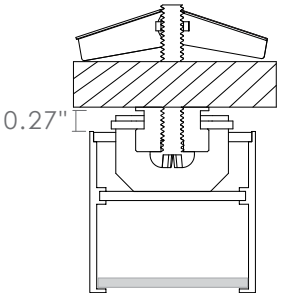
Add-on hardware includes cable gripper with hook, 2-cable clamp and specified length of aircraft cable per suspension point



CEILING MOUNT (CM)

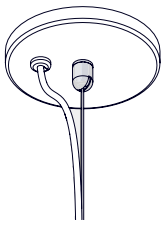
Ceiling mount is for horizontal, ceiling mounting only. The fixture is not compatible with indirect lamping or vertical surface mounting (i.e. on a wall). Three ceiling-mount brackets per fixture. Surface Mount hardware adds 0.27" height to all options, as shown.





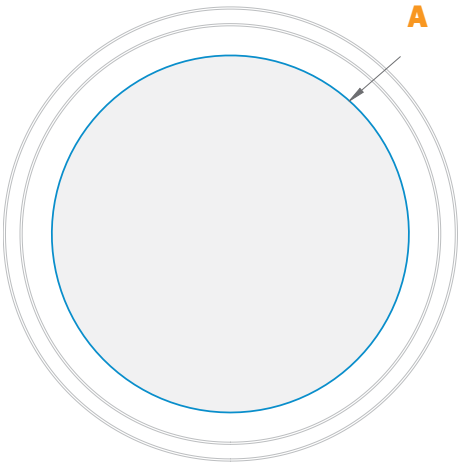
COMBO CANOPY

Suspended options come with standard 4.5" canopies at feed locations with power feed and aircraft cable suspension mounting. Canopy finish is always white.
Contact ALW for alternate colors.

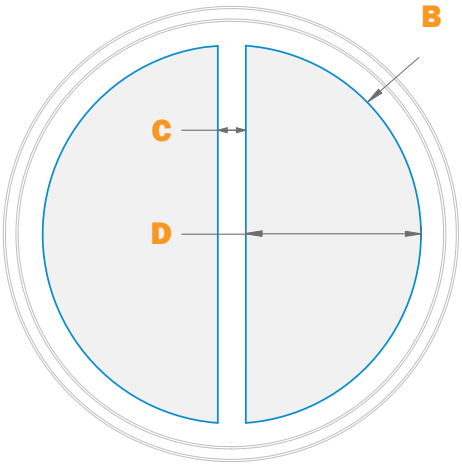


CUSTOM ACOUSTIC PATTERNS

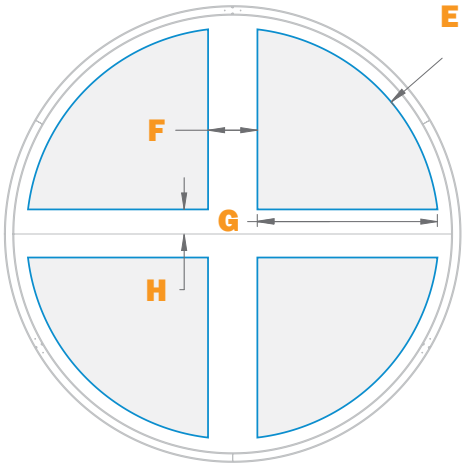
Choose from a solid acoustic sound absorber or create your own custom designs by following the instructions and template guidelines below. Gray areas indicate templates for acoustic pattern cutouts. D4, D5, and D6 have limited areas for customization due to stability struts located on the backside of the fixtures.



D2, D3



D4

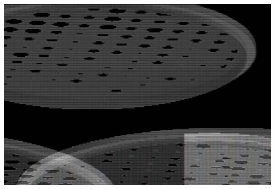


D5, D6

DIMENSION	FIXTURE SIZE	MR1.5	MR3
A	D2	17" Dia.	14" Dia.
	D3	29" Dia.	26" Dia.

DIMENSION	FIXTURE SIZE	MR1.5	MR3
B	D4	41" Dia.	38" Dia.
C	D4	5.75"	5.75"
D	D4	17.625"	16.125"

DIMENSION	FIXTURE SIZE	MR1.5	MR3
E	D5	53" Dia.	50" Dia.
	D6	65" Dia.	62" Dia.
F	D5	5.75"	5.75"
	D6	5.75"	5.75"
G	D5	23.47"	21.9"
	D6	29.5"	28"
H	D5	2.875"	2.875"
	D6	2.875"	2.875"



HOW TO SUBMIT YOUR CUSTOM ACOUSTIC PATTERN?

1. DOWNLOAD THE ACOUSTIC CUSTOM PATTERN .ZIP FILE ON THE PRODUCT PAGE
Open the appropriate .ai (Adobe Illustrator) or CAD .dxf file

2. INPUT YOUR DESIGN WITHIN THE TEMPLATE AREA
Template area will be marked with a dashed perimeter

3. SAVE YOUR FILE. INCLUDE THE PROJECT NAME AND OTHER SUPPORTING INFO AT THE END OF THE FILE NAME
For example, "*SP2.5SA Custom Acoustic Design Template - Project ALW*"

4. SUBMIT FORMS BELOW TO ALW FOR REVIEW
1. Acoustic Design Template File
2. Product Code and Quantities

FINISHES

Standard finishes are available at no additional charge and no extended lead time for standard configurations.
Two-tone paint options available for select models with extra charge.

STANDARD FINISHES

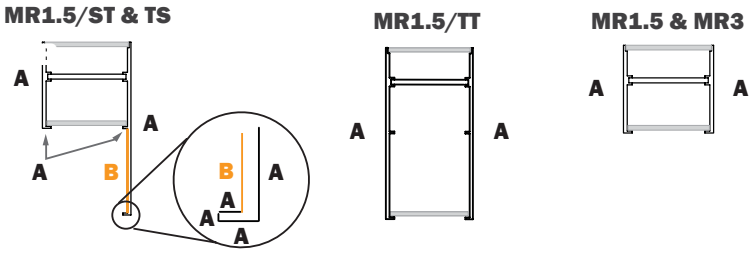
BA — Brushed Aluminum

AS — Aluminum Silver Anodized Effect

SW — Satin White

SB — Satin Black

TB — Textured Black



PREMIUM FINISHES

BASIC POWDER COAT

GW — Gloss White

AW — Antimicrobial Gloss White

TW — Textured Matte White

METALLIC POWDER COAT

CG — Charcoal Gray

CU — Copper

BR — Brass

SATIN ANODIZED EFFECT POWDER COAT

OB — Oil-Rubbed Bronze

DB — Dark Bronze

GLOSS POWDER COAT (80-95% GLOSS)

GO — Orange RAL 2003

GR — Red RAL 3020

GM — Magenta RAL 4010

GB — Blue RAL 5015

Contact ALW Quotes for sample paint finish swatches.

SPECIAL ORDER FINISHES*

RAL CLASSIC COLORS (80-95% GLOSS): RAL_ _ _ _

Most RAL Classic Colors are available for a minimum setup fee. On your specification submittal choose your RAL color by entering the 4-digit RAL code (Ex: RAL 3003).
See www.alw-inc.com/resources/finishes

CUSTOM COLOR MATCH: CCM_ _ _ _

Custom powder coat color matching is available for a premium setup fee. Consult ALW for additional information.

*An individual setup fee will apply to each unique Special Order Finish per purchase order.
(ex: RAL 5023 and RAL 2008 are specified for multiple line items on a purchase order. 2x setup fees will apply)

*Printed or on-screen colors are only approximations - consult actual Color Chip Set before specifying

ACOUSTIC FINISHES

ACOUSTIC COLORS & INFORMATION

The Harmonic Collection features 10 acoustic material colors comprised of ~0.5" (12mm) PET polyester fibers, specially designed for premium sound absorption. ALW's PET acoustics as a 2D absorber have a NRC (Noise Reduction Coefficient) of 85%. Each panel is precision-cut to size using our CNC-cutting process, enabling a wealth of design options from beveled edges to custom cutouts. All panels conform to ASTM E84 Class A and EN13501-1 Class B fire ratings.

NOTE: For all white and light acoustic finishes, Solid Top Cover (SLD) is provided by default as certain ambient lighting conditions can make back hardware visible from the bottom.

Crystal White | Marble White | Heather Gray | Charcoal Gray | Jet Black | Ivory White | Aloe Green | Titan Orange | Scarlet Red | Midnight Blue

COMPANION ACOUSTIC COLORS & RAL FINISHES

The chart below outlines suggested RAL finishes to complement the acoustic colors above. With exception to ALW Satin Black and Satin White these RAL suggestions are not standard paint finish offerings. See next page for ALW's full paint finish catalog.

ACOUSTIC COLOR	COMPANION RAL FINISHES	ACOUSTIC COLOR	COMPANION RAL FINISHES
Crystal White	ALW Satin Black (SB) ALW Satin White (SW)	Ivory White	ALW Satin Black (SB) ALW Satin White (SW)
Marble White	RAL 7024 - Graphite Grey RAL 7046 - Telegrey 2 ALW Satin Black (SB) ALW Satin White (SW)	Aloe Green	RAL 6025 - Fern Green (slightly darker shade than acoustic) RAL 7013 - Brown Grey ALW Satin Black (SB) ALW Satin White (SW)
Heather Gray	RAL 7024 - Graphite Grey RAL 7046 - Telegrey 2 ALW Satin Black (SB) ALW Satin White (SW)	Titan Orange	RAL 2011 - Deep Orange RAL 5003 - Sapphire Blue RAL 5008 - Grey Blue RAL 8011 - Nut Brow RAL 9001 - Cream ALW Satin Black (SB) ALW Satin White (SW)
Charcoal Gray	RAL 7021 - Black Grey RAL 7024 - Graphite Grey ALW Satin Black (SB) ALW Satin White (SW)	Scarlet Red	RAL 3031 - Orient Red RAL 7047 - Telegrey 4 RAL 9001 - Cream ALW Satin Black (SB) ALW Satin White (SW)
Jet Black	ALW Satin Black (SB) ALW Satin White (SW)	Midnight Blue	RAL 5002 - Ultramarine Blue RAL 2011 - Deep Orange RAL 4010 - Magenta RAL 7047 - Telegrey 4 RAL 9001 - Cream ALW Satin Black (SB) ALW Satin White (SW)

PERFORMANCE DETAILS - MR1.5[13]

RING DIAMETER	OUTPUT TYPE	LUMENS (LM)		WATTS (W)		POWER DROPS[14] (Standard Driver)[15]		REMOTE DRIVER BOXES[16] (Standard Driver)[15]		SUSPENSION POINTS	FIXTURE SECTIONS	APPROX. WEIGHT (LBS)[17]	CENTRAL AXIS, COLLARED OR CEILING
		Direct	*Indirect*	*Direct* ***OR*** *Indirect*	*Direct* ***AND*** *Indirect*	*Direct* ***OR*** *Indirect*	*Direct* ***AND*** *Indirect*	*Direct* ***OR*** *Indirect*	*Direct* ***AND*** *Indirect*				
D2 (MR1.5)	MIN	1500	1650	22	44	1	1	1	1	3	1x Ring	16	YES
	LOW	2250	2500	35	70	1	1	1	1				
	MED	3000	3350	47	94	1	1	1	1				
	HI	4500	N/A	70	N/A	1	N/A	1	N/A				
	RGB RGBW	1750 3200	1950 3600	47 59	94 118	1	2	1	2				
	TUNABLE	4450	4950	64	128	1	1	1	2				
D3 (MR1.5)	MIN	2250	2525	34	68	1	1	1	1	3	1x Ring	27	YES
	LOW	3375	3750	54	108	1	1	1	1				
	MED	4500	5050	72	144	1	1	1	1				
	HI	6750	N/A	108	N/A	1	N/A	1	N/A				
	RGB RGBW	2600 4800	2950 5350	74 92	148 184	1	2	1	2				
	TUNABLE	6700	7450	98	196	1	2	2	4				
D4 (MR1.5)	MIN	3000	3350	46	92	1	1	1	1	3	1x Ring	42	YES
	LOW	4500	5050	73	146	1	1	1	1				
	MED	6000	6750	97	194	1	2	1	2				
	HI	9000	N/A	145	N/A	1	2	1	2				
	RGB RGBW	3500 6400	3900 7150	101 126	202 252	1 2	2 2	1 2	2 4				
	TUNABLE	8900	9900	132	266	1	2	2	4				
D5 (MR1.5)	MIN	3750	4200	58	116	1	1	1	1	3	1x Ring	60	YES
	LOW	5600	6300	92	184	1	1	1	1				
	MED	7500	8400	122	244	1	2	1	2				
	HI	11250	N/A	183	N/A	1	N/A	1	N/A				
	RGB RGBW	4350 8000	4850 8900	123 157	246 314	2	2	2	4				
	TUNABLE	11150	12400	168	336	1	2	2	4				

[13]Performance calculations are based on LM-79 test of MAX output at 80 CRI and 4000K. MIN, LOW, MED and HIGH calculations are extrapolated values.
[14]Power Drop refers to the total quantity of canopies dropping low voltage power to the fixture. Each canopy may have one or multiple wire feeds supplying power to the fixture.
[15]One or more drivers may be enclosed in each Remote Driver Box. See your final drawing/submittal for details.
[16]Applies to V05 drivers (or DMX for RGB/RGBW). For additional info on other driver models see your final drawing/submittal.
[17]Due to many MoonRing variations, advertised weights are based on an MR3A as it is the worst case, heaviest model.

PERFORMANCE DETAILS - MR1.5 (CONT'D)[13]

RING DIAMETER	OUTPUT TYPE	LUMENS (LM)		WATTS (W)		POWER DROPS[14] *(Standard Driver)*[15]		REMOTE DRIVER BOXES[16] *(Standard Driver)*[15]		SUSPENSION POINTS	FIXTURE SECTIONS	APPROX. WEIGHT (LBS)[17]	CENTRAL AXIS, COLLARED OR CEILING
		Direct	*Indirect*	*Direct **OR** Indirect*	*Direct **AND** Indirect*	*Direct **OR** Indirect*	*Direct **AND** Indirect*	*Direct **OR** Indirect*	*Direct **AND** Indirect*				
D6 (MR1.5)	MIN	4500	5050	70	140	1	1	1	2	4	1x Ring	78	YES
	LOW	6750	7575	110	220	1	2	1	2				
	MED	9000	10100	147	294	1	2	1	2				
	HI	13500	N/A	220	N/A	2	N/A	2	N/A				
	RGB RGBW	5250 9600	5850 10700	150 191	300 382	2	2	2	4				
	TUNABLE	13350	14850	202	404	2	2	3	6				

[13]Performance calculations are based on LM-79 test of MAX output at 80 CRI and 4000K. MIN, LOW, MED and HIGH calculations are extrapolated values.
[14]Power Drop refers to the total quantity of canopies dropping low voltage power to the fixture. Each canopy may have one or multiple wire feeds supplying power to the fixture.
[15]One or more drivers may be enclosed in each Remote Driver Box. See your final drawing/submittal for details.
[16]Applies to V05 drivers (or DMX for RGB/RGBW). For additional info on other driver models see your final drawing/submittal.
[17]Due to many MoonRing variations, advertised weights are based on an MR3A as it is the worst case, heaviest model.

PERFORMANCE DETAILS - MR3 (CONT'D)[18]

RING DIAMETER	OUTPUT TYPE	LUMENS (LM)		WATTS (W)		POWER DROPS[19] (Standard Driver)[21]		REMOTE DRIVER BOXES[20] (Standard Driver)[21]		SUSPENSION POINTS	FIXTURE SECTIONS	APPROX. WEIGHT (LBS)[22]	CENTRAL AXIS, COLLARED OR CEILING
		Direct	*Indirect*	*Direct* ***OR*** *Indirect*	*Direct* ***AND*** *Indirect*	*Direct* ***OR*** *Indirect*	*Direct* ***AND*** *Indirect*	*Direct* ***OR*** *Indirect*	*Direct* ***AND*** *Indirect*				
D2 (MR3)	MIN	2350	2650	22	44	1	1	1	1	3	1x Ring	16	YES
	LOW	3550	3975	35	70	1	1	1	1				
	MED	4725	5300	47	94	1	1	1	1				
	HI	7100	N/A	70	N/A	1	N/A	1	N/A				
	RGB RGBW	1850 3400	2075 3825	47 59	94 118	1	2	1	2				
	TUNABLE	4725	5300	64	128	1	1	1	2				
D3 (MR3)	MIN	3550	3975	34	68	1	1	1	1	3	1x Ring	27	YES
	LOW	5300	5950	54	108	1	1	1	1				
	MED	7100	7950	72	144	1	1	1	1				
	HI	10625	N/A	108	N/A	1	N/A	1	N/A				
	RGB RGBW	2775 5100	3125 5725	74 92	148 184	1	2	1	2				
	TUNABLE	7075	7975	98	196	1	2	2	4				
D4 (MR3)	MIN	4725	5300	46	92	1	1	1	1	3	1x Ring	42	YES
	LOW	7100	7950	73	146	1	1	1	1				
	MED	9450	10625	97	194	1	2	1	2				
	HI	14200	N/A	145	N/A	1	N/A	1	N/A				
	RGB RGBW	3700 6775	4150 7625	101 126	202 252	1 2	2 2	1 2	2 4				
	TUNABLE	9450	10625	133	266	1	2	2	4				
D5 (MR3)	MIN	5900	6625	58	116	1	1	1	1	4	1x Ring	60	YES
	LOW	8900	9950	92	184	1	1	1	1				
	MED	11800	13275	122	244	1	2	1	2				
	HI	17700	N/A	183	N/A	1	N/A	1	N/A				
	RGB RGBW	4625 8475	5200 9525	123 157	246 314	2	2	2	4				
	TUNABLE	11800	13275	168	336	1	2	2	4				

[18]Performance calculations are based on LM-79 test of MAX output at 80 CRI and 4000K. MIN, LOW, MED and HIGH calculations are extrapolated values.
[19]Power Drop refers to the total quantity of canopies dropping low voltage power to the fixture. Each canopy may have one or multiple wire feeds supplying power to the fixture.
[20]One or more drivers may be enclosed in each Remote Driver Box. See your final drawing/submittal for details.
[21]Applies to 0/10V/S drivers (or DMX for RGB/RGBW). For additional info on other driver models see your final drawing/submittal.
[22]Due to many MoonRing variations, advertised weights are based on an MR3A as it is the worst case, heaviest model.

PERFORMANCE DETAILS - MR3 (CONT'D)[18]

RING DIAMETER	OUTPUT TYPE	LUMENS (LM)		WATTS (W)		POWER DROPS[19] (Standard Driver)[21]		REMOTE DRIVER BOXES[20] (Standard Driver)[21]		SUSPENSION POINTS	FIXTURE SECTIONS	APPROX. WEIGHT (LBS)[22]	CENTRAL AXIS, COLLARED OR CEILING
		Direct	*Indirect*	*Direct* ***OR*** *Indirect*	*Direct* ***AND*** *Indirect*	*Direct* ***OR*** *Indirect*	*Direct* ***AND*** *Indirect*	*Direct* ***OR*** *Indirect*	*Direct* ***AND*** *Indirect*				
D6 (MR3)	MIN	7100	7950	70	140	1	1	1	2	4	1x Ring	78	YES
	LOW	10625	11925	110	220	1	2	1	2				
	MED	14200	15925	147	294	1	2	1	2				
	HI	21300	N/A	220	N/A	2	N/A	2	N/A				
	RGB RGBW	5550 10175	6225 11450	150 191	300 382	2	2	2	4				
	TUNABLE	14175	15925	202	404	2	2	3	6				

[18]Performance calculations are based on LM-79 test of MAX output at 80 CRI and 4000K. MIN, LOW, MED and HIGH calculations are extrapolated values.
[19]Power Drop refers to the total quantity of canopies dropping low voltage power to the fixture. Each canopy may have one or multiple wire feeds supplying power to the fixture.
[20]One or more drivers may be enclosed in each Remote Driver Box. See your final drawing/submittal for details.
[21]Applies to 0/10V/S drivers (or DMX for RGB/RGBW). For additional info on other driver models see your final drawing/submittal.
[22]Due to many MoonRing variations, advertised weights are based on an MR3A as it is the worst case, heaviest model.

DIRECT/INDIRECT LED LAMPING CHART

Due to high thermal conditions, Direct & Indirect Lamping combinations are limited to the options below. Additional lamping combinations may be limited to the driver specified.

		INDIRECT LAMPING							
		NONE	MIN	LOW	MED	HI	RGB	RGBW	TUNE
DIRECT LAMPING	MIN	✓	✓	✓	✓	✓	✓	✓	✓
	LOW	✓	✓	✓	✓	✓	✓	✓	✓
	MED	✓	✓	✓	✓				
	HI	✓	✓	✓					
	RGB	✓	✓	✓			✓	✓	✓
	RGBW	✓	✓	✓			✓	✓	✓
	TUNE	✓	✓	✓			✓	✓	✓

VOLTAGE DROP DETAILS

VOLTAGE DROP CALCULATION DIRECTIONS

Your MOONRING may be powered with more than 1x Class 2 LED driver. Let's use the White LED, 33VDC chart below as an example.

1. Determine Load Size of Each Circuit

a. Open the driver enclosure and you'll see a silver sticker that indicates the Power (Wattage).

b. Let's say the load is 45W. Round up to the nearest load, which is 50W (we're using the White LED, 33VDC chart in this example).

2. Determine Distance from Driver to Load

Let's assume the distance is 60 ft. I f you need to determine your wire gauge and driver distance before you receive the product, use 95W as your worst case load rating. All drivers are Class 2 and each circuit will never exceed 95W.

3. Determine Wire Gauge

In this example, ALW recommends to install 16 AWG wire between the Driver and Canopy (where power drops to the ring).

MOONRING VOLTAGE DROP CHART FOR REMOTE DRIVERS - WHITE LED, 33VDC

For best performance, ensure proper wire gauge is installed between the remote LED driver and canopy that is dropping power to your fixture. This chart only applies to MOONRING White LEDs at 33VDC. Do not use this chart to calculate voltage drop for other fixtures.

WIRE GAUGE	20W 0.61A	30W 0.91A	40W 1.21A	50W 1.52A	60W 1.82A	70W 2.12A	80W 2.42A	90W 2.73A	100W 3.03A
18 AWG	119 ft.	77 ft.	55 ft.	43 ft.	34 ft.	28 ft.	23 ft.	20 ft.	17 ft.
16 AWG	195 ft.	127 ft.	93 ft.	73 ft.	59 ft.	50 ft.	42 ft.	37 ft.	32 ft.
14 AWG	315 ft.	207 ft.	153 ft.	121 ft.	99 ft.	84 ft.	72 ft.	63 ft.	56 ft.
12 AWG	506 ft.	334 ft.	249 ft.	197 ft.	163 ft.	138 ft.	120 ft.	106 ft.	94 ft.
10 AWG	809 ft.	537 ft.	400 ft.	319 ft.	264 ft.	225 ft.	196 ft.	173 ft.	155 ft.

MOONRING VOLTAGE DROP CHART FOR REMOTE DRIVERS - RGB LED, 24VDC

For best performance, ensure proper wire gauge is installed between the remote LED driver and canopy that is dropping power to your fixture. This chart only applies to MOONRING RGB fixtures at 24VDC. Do not use this chart to calculate voltage drop for other fixtures.

WIRE GAUGE	20W 0.83A	30W 1.25A	40W 1.67A	50W 2.08A	60W 2.50A	70W 2.92A	80W 3.33A	90W 3.75A	100W 4.20A
18 AWG	59 ft.	37 ft.	25 ft.	19 ft.	14 ft.	11 ft.	8 ft.	7 ft.	5 ft.
16 AWG	99 ft.	63 ft.	45 ft.	35 ft.	27 ft.	22 ft.	18 ft.	15 ft.	13 ft.
14 AWG	163 ft.	106 ft.	77 ft.	60 ft.	49 ft.	40 ft.	34 ft.	30 ft.	26 ft.
12 AWG	264 ft.	173 ft.	128 ft.	100 ft.	82 ft.	69 ft.	60 ft.	52 ft.	46 ft.
10 AWG	424 ft.	280 ft.	208 ft.	164 ft.	136 ft.	115 ft.	100 ft.	88 ft.	78 ft.

DRIVERS

PRODUCT CODE	DESCRIPTION
N	None. Choose when indirect lamping is not desired.
V00	0-10V dimming down to 0% (dim to off).
V01	0-10V dimming down to 1%.
V05	0-10V dimming down to 5% (Down to 10% for TUNE lamping).
P01	Driver supports both TRIAC Forward Phase 2-Wire and ELV Reverse Phase 3-Wire dimming controls.
LDE1	(LDE1) Lutron Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology.
ELDV0	eldoLED 0/10V dimming down to 0% (when choosing nLight Air integral sensors a compatible eldoLED LEDcode version will be specified)
DALI	DALI flicker-free dimming down to 0%.
DMX	DMX flicker-free dimming down to 0%.
POEM	Molex CoreSync PoE LED Driver. Contact ALW to assist with your project.
POEI	IGOR PoE LED Driver. Contact ALW to assist with your project.
POEN	NuLEDS PoE LED Driver. Contact ALW to assist with your project.
POE	Specify a PoE driver of your choice. Fixture comes with low voltage leads and no LED driver. Contact ALW to assist with your project

*Most drivers can be programmed to specific dimming levels if desired. Contact ALW for specific dimming level requests.
ALW lighting fixtures are intended for use with a wide range of sensors, lighting controls, LED drivers, and building management systems. If there are specific components required for your application that aren't listed on this spec sheet, please contact ALW customer support today to specify a compatible solution of your choice.

DRIVER/LED LAMPING COMPATIBILITY						
	STD	TUNE	RGB	RGB(W)	CA TITLE 24 JA8/JA10[23]	IEEE P1789 & HD TV STUDIO*[24]
V00	●	●			●	
V01	●	●			●	
V05	●	●			●	
P01	●				●	
LDE1	●				●	●
ELDV0	●	PER REQUEST			●	●
DALI	●	●			●	
DMX	●	●		●	PER REQUEST	PER REQUEST
POEM	PER REQUEST				●	●
POEI	PER REQUEST				●	●
POEN	PER REQUEST				●	●

● - Indicates compatibility
*Standard lamping (STD) - MIN/LOW/MED/HI

[23]Fixtures specified with 90CRI 2700K, 3000K, 3500K, and 4000K lamping with applicable LED drivers have the ability to conform to California Title 24 JA8 and JA10 Appendices

[24]The following drivers conform to IEEE P1789 Flicker Standard: 'IEEE Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers'. These drivers may also be installed in HD TV Studio applications utilizing high frequency camera equipment.

SENSORS

	PRODUCT CODE	DESCRIPTION	Location
	N	None. Choose when sensors are not desired.	-
COOPER WAVELINX	**WLNX**	Fixture is built with 0/10V wiring to connect to Wavelinx Wireless sensors and power/relay packs (sensors and equipment not provided by ALW)	Remote
ENLIGHTED™	**ENLGHT**	Enlighted remote connected lighting smart sensor - occ/daylight/networking (Enlighted Part: SU-5S-H-CL)	Remote
LUTRON VIVE	**FCJS**	Lutron® Vive remote RF wireless fixture control (Lutron Part: FCJS-ECO or FCJS-010)	Remote
	FCJS/S	Lutron® Vive remote RF wireless fixture control + daylight/occ sensor (Lutron Part: FCJS-ECO or FCJS-010, & FC-Sensor)	Remote
MOLEX POE CORESYNC	**MLX**	Molex PoE sensors for use with Molex/PoE drivers. Customer will need to determine who to purchase PoE equipment from	Remote
NLIGHT® WIRED	**NLT**	Fixture is built with wiring connections to connect to nLight® Wired remote sensors and power/relay packs purchased through distributor by agency	Remote
NLIGHT WIRELESS	**NLTAIR**	Fixture is built with wiring connections to connect to nLight® Air remote sensors and power/relay packs purchased through distributor by agency	Remote
VALUE SENSORS	**OS/PH/HV**	*Hubbell WASP* **High Voltage** *0-10V remote surface mount occ/daylight sensor. 120/277/347VAC input (Hubbell Part: WSPDSMUNV)* *Automated Dimming Functionality: Connect fixture 0/10V wires to sensor in the field. Adjust occ/photocell settings as desired* *On/Off or Manual Dimming Functionality: Turn photocell functionality OFF. Cap off 0/10V wires on sensor* *Connect fixture 0/10V wires to wall dimmer in the field.*	Remote

*All connected lighting sensors/systems must be programmed in the field by an electrical commissioner familiar with the system. Refer to the 'Sensor Compatibility' and 'Driver/Sensor Compatibility' charts to specify compatible sensors, LED lamping, and LED driver systems.

SENSOR COMPATIBILITY								
PRODUCT CODE		**SENSOR TYPE**	**MAX MT HT**	**CA TITLE 24**	**STD***	**TUNE**	**RGB**	**RGB(W)**
COOPER WAVELINX	**WLNX**		15 ft	●	●			
ENLIGHTED	**ENLGHT**	OCCUPANCY/PHOTOCELL	40 ft	●	●	CUSTOM REQUEST		
LUTRON VIVE	**FCJS**	WIRELESS CONTROL	12 ft	●	●			
	FCJS/S	OCCUPANCY/PHOTOCELL	12 ft	●	●			
MOLEX POE CORESYNC	**MLX**		16 ft	●	●	■	CUSTOM REQUEST	CUSTOM REQUEST
NLIGHT WIRED	**NLT**		15 ft	●	●			
NLIGHT AIR WIRELESS	**NLTAIR**		15 ft (average)	●	●			
VALUE SENSORS	**OS/PH/HV**	OCCUPANCY/PHOTOCELL	45 ft	●	●	■	■	■

● - Indicates compatibility ■ - On/off sensor functionality only

*Standard lamping (STD) - MIN/LOW/MED/HI

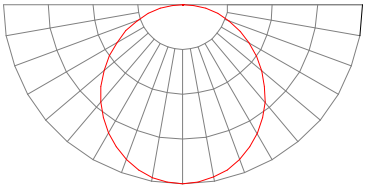
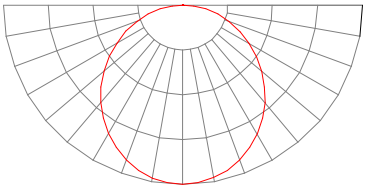
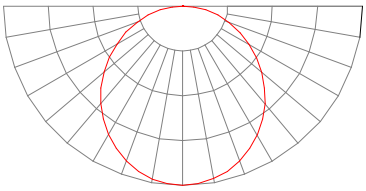
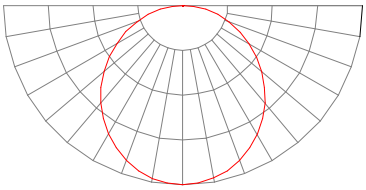
SENSORS (CONT'D)

DRIVER/SENSOR COMPATIBILITY									
	WLNX	ENLGHT	FCJS	FCJS/S /	MLX	NLT	NLTAIR	OS/PH/HV	NO SENSOR
V00	●	●	●	●				▲	●
V01	●	●	●	●				▲	●
V05	●	●	●	●				▲	●
P01								■	●
LDE1			●	●				■	●
ELDV0						●	●	▲	●
DALI								■	●
DMX								■	●
POEM					●				●
POEI	Sensor types will depend on the PoE system configuration. Contact ALW for details.								
POE	Sensor types will depend on the PoE system configuration. Contact ALW for details.								
POE	Sensor types will depend on the PoE system configuration. Contact ALW for details.								

● - Indicates compatibility ▲ - Driver/sensor can have dimming OR on/off functionality but not both ■ - On/off sensor functionality only

*Driver specifications provided upon request
**ALW lighting fixtures are intended for use with a wide range of sensors, lighting controls, LED drivers, and building management systems. If there are specific components required for your application that aren't listed on this spec sheet please contact ALW customer support today to specify a compatible solution of your choice.

PHOTOMETRICS

OPTIC	POLAR PLOT (CD)	MTG HEIGHT	LIGHT LEVEL (FC)	SPACING CRITERION (SC)[25] (0°- 180°) (90°- 270°)	MAX INTENSITY (CD)	OUTPUT (LM)
MR1.5		6 ft	43.8	1.26 1.26	1575	4500
		8 ft	24.6			
		10 ft	15.8			
		12 ft	10.9			
		14 ft	8			
		16 ft	6.2			
MR1.5 (ST)		6 ft	48.1	1.1 1.12	1739	4200
		8 ft	27			
		10 ft	17.3			
		12 ft	12			
		14 ft	8.8			
		16 ft	6.8			
MR1.5 (TS)		6 ft	42.8	1.12 1.1	1541	4048
		8 ft	24.1			
		10 ft	15.4			
		12 ft	10.7			
		14 ft	7.9			
		16 ft	6			
MR3		6 ft	70.6	1.26 1.26	2541	7100
		8 ft	39.7			
		10 ft	25.4			
		12 ft	17.6			
		14 ft	13			
		16 ft	9.9			

*Photometric calculations based on HI 4000K 80 CRI D2 fixture combination. Actual results may vary in the field.
For footcandle and output multipliers refer to the ALW IES File Multipliers Chart.

[25]Spacing criterion refers to maximum distance luminaires can be spaced to provide uniform illumination on the working plane or surface.
Luminaire spacing = Spacing Criterion (SC) x Mounting Height (MH) (ex. 1.14 (SC) x 10' (MH) = 11.4' Luminaire Spacing).

ADDITIONAL OPTIONS & SPECIFICATIONS

LED PERFORMANCE

> 54,000 hours at 70% lumen maintenance, LM80 / TM-21

HOUSING

100% recyclable, extruded architectural grade 6061 aluminum with a 0.075" minimum wall thickness.

OPTICS

Direct: Extra diffused opal acrylic lens (LENS)
Indirect: Extra diffused opal acrylic lens (LENS) OR clear high transmission lens (HT). HT lens increases lumen output by ~15%, but LED chips are visible. Recommended only when top-side of fixture is not directly visible

SAFETY & REGULATORY

Fixtures specified with 90CRI, 2700K, 3000K, 3500K, and 4000K lamping with applicable LED drivers have the ability to conform to **California Title 24 JA8 and JA10** Appendices. EldoLED drivers can conform to IEEE P1789 Flicker Standard: 'IEEE Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers .

Contact ALW customer support today and we can help you with your project requirements.

ETL Listed (U.S. & Canada). Suitable for dry locations only.
Conforms to UL std. 2108, Low Voltage Luminaires / Low Voltage Lighting Systems.
Certified to CSA std. C22.2#250.0:2008 Ed. 3+G1;G2.

WARRANTY

Limited 11 year warranty. Details: Details at alw-inc.com.

OPERATING TEMPERATURE

Luminaire should be installed and operated ONLY in dry environments where the ambient temperature ranges from -4°F to 122°F (-20°C to 50°C). Luminaire operation in environments outside the listed temperature range voids the warranty AND may damage the product or adversely impact lamp life, lumen output and color consistency.

POWER CABLES

Power cables come standard in a transparent sheathing to match steel aircraft suspension cables. Please contact customer support if custom cables are required for your application. Power cables cannot be swapped in the field as it will void the ETL Safety Listing and Product Warranty.

WEIGHT

See "Performance & Lamping Details" Chart.

CONTROLS, SENSORS, & LED DRIVER

ALW lighting fixtures are intended for use with a wide range of sensors, lighting controls, LED drivers, and building management systems. Our component portfolio is continually expanding to adopt to the latest technologies and specification needs. We currently support integration with Lutron, Enlighted, EldoLED, nLight, Osram, Philips, and more. If there's a component or system needed that you don't see on the spec sheet please contact ALW customer support today so we can review your requirements.

CARE

PET acoustics: Remove dust with a vacuum or lint roller.
Aluminum & polymer components: Remove dust and debris with a clean, dry or damp lint-free cloth.