

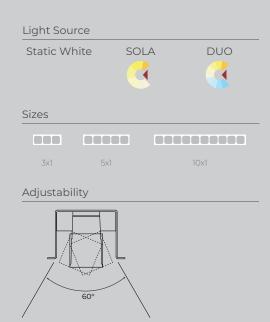




Cluster is the precise, and scalable family of downlights, wall washers, and adjustables, available for recessed, pendant, and surface mounting.

Based on a fundamental 1.2" square cell, Cluster delivers lighting that is optically sophisticated and aesthetically refined.

Cluster recessed adjustable parabolic downlights are available in 3, 5, and 10 cell configurations and aims 30° in either direction with a wide flood distribution. They have precision optics that eliminate multiple shadows, as well as subtle louver treatments.





Cluster Family (Refer to other spec sheets)

Recessed, Wood Slat





















Downlight







Combo

Surface





Acoustix

Parabolic





RECESSED ADJUSTABLE PARABOLIC



Project:	
Type:	

Order Guide 1. HOUSING

IC RATED

LUMINAIRE ID	TRIM STYLE	LIGHT SOURCE	INSTALLATION TYPE	MOUNTING OPTION ²	DRIVER	VOLTAGE	LUM	EN PACKAGE ⁴	DIMMING
CLU03RADJPAR - Cluster 3x1 Recessed Adjustable Parabolic CLU05RADJPAR - Cluster 5x1 Recessed Adjustable Parabolic CLU10RADJPAR	TRM - Flanged trim TLMP - Trimless drywall mudplate	SW - Static white SOLA¹ - Dim-to -warm single channel control 35K to 22K DUO¹ - Tunable	OF - Open Frame Type Non-IC IC - Type-IC RM - Remodel Type Non-IC CP - Chicago Plenum Type-IC	ASB ³ - Adjustable standard bar hangers FMB ³ - Flush mount bars ACB ³ - Adjustable commercial bar hangers AHC ³ - Adjustable hat channel bars NA - None	INTEGRAL	120V - 120V 277V - 277V UNV - 120V-277V	with	584LM - 584 lm 957LM - 957 lm 1896LM - 1896 lm en packages shown at 3500K, SPL. For other, see lumen at multipliers on page 5.	D1 - 1% 0-10V ELV 5 - ELV 120V TRI 5 - TRIAC 120V 5-Available with 120V only.
- Cluster 10x1 Recessed Adjustable Parabolic		white 2-channel control 65K to 27K Not available with integral driver option.	(CCEA)	² See page 3 for more details. ³ Not available with RM installation type.	REMOTE	SEE "R		OT SPECIFY FOR REMOTI E DRIVER BOX" SECTION	

2. LIGHT

LUMINAIRE ID	TRIM STYLE	LIGHT SOURCE	OPTIC	CRI	COLOR TEMPERATURE	TRIM FINISH 6	LIGHT ELEMENT FINISH	LOUVER FINISH
			PAR	90CRI				
CLU03RADJPARL -	TRM -	SW - Static white	PAR -	90CRI -	27K - 2700K	FTMW - Textured	FTMW - Textured	MWPL - Matte
Cluster 3x1 Recessed Adjustable Parabolic	Flanged trim TLMP -	SOLA - Dim-to	Parabolic	90 CRI	30K - 3000K 35K - 3500K	matte white FTMB - Textured	matte white FTMB - Textured	White Parabolic Louver
CLU05RADJPARL - Cluster 5x1 Recessed Adjustable Parabolic	Trimless drywall mudplate	-warm single channel control 35K to 22K			40K - 4000K 50K - 5000K	matte black CF# - Custom finish, specify RAL#	matte black CF# - Custom finish, specify	MBPL - Matte Black Parabolic Louver
CLU10RADJPARL - Cluster 10x1 Recessed Adjustable Parabolic		DUO - Tunable white 2-channel control 65K to 27K			SOLA - Dim-to-warm single channel control 35K to 22K DUO - Tunable white 2-channel control 65K to 27K	⁶ Applicable for trim and trimless. Body finish matches trim finish.	RAL#	MPL - Matte Parabolic Louver SPL - Specular Parabolic Louver

3 DEMOTE DRIVER BOX

REMOTE DRIVER 7 LUMINA		LUMINAIR	MINAIRE QUANTITY 8		LUMINAIRE ID			VOLTAGE	
⁷ Specify each required remote driver box on a separate line. ⁸ Specify num			CLU05RADJPAR - Cluster S		- Cluster 5x1 Recessed	Cluster 3x1 Recessed Adjustable Parabolic Cluster 5x1 Recessed Adjustable Parabolic Cluster 10x1 Recessed Adjustable Parabolic			
LUMI	EN PACKAGE 9			DIMMING ¹⁰					
	Low	Medium	High	RD1 - 1% 0-10V	RELD1 - eldoLE		SOLA	DUO	
3x1	Low 200LM - 200 lm	Medium 365LM - 365 lm	High 584LM - 584 lm	RELV 11,12 - ELV 120V	ECOdrive 0-10\	/	RSD1 - Single 0-10V	RDMX 13 - DMX	
			_			/ ED 0.1%			
3x1 5x1 10x1	200LM - 200 lm	365LM - 365 lm 598LM - 598 lm 1185LM - 1185 lm	584LM - 584 lm 957LM - 957 lm 1896LM - 1896 lm	RELV ^{11, 12} - ELV 120V RTRI ^{11, 12} - TRIAC 120V	ECOdrive 0-10\ RELDO - eldoL	/ ED 0.1%	RSD1 - Single 0-10V	RDMX ¹³ - DMX RDDA ¹³ - DALI DT6	

EXAMPLE

-				
	HOUSING	CLU05RADJPAR-TRM-SW-OF-FMB-REMOTE	REMOTE	RDB1-4X-CLU05RADJPAR-120V-598LM-RD1
	LIGHT	CLU05RADJPARL-TRM-SW-PAR-90CRI-30K-FTMW-FTMW-SPL	DRIVER	RDB2-2X-CLU05RADJPAR-120V-598LM-RD1



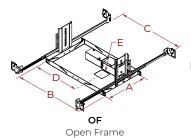


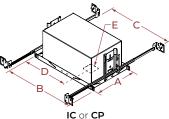


Housing

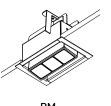
Cluster can be installed in a wide range of ceiling conditions and with various ceiling trim options. Spring clips clamp the lighting unit to the mounting frame (or directly to the ceiling for remodel). Maximum ceiling thickness is 1.25".

INSTALLATION TYPES

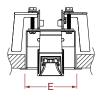


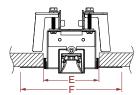


Type-IC / Chicago Plenum



CUT-OUT DIMENSIONS





RM Remodel

TRM TLMP
Flanged trim Trimless drywall
mudplate

Drawings shown with adjustable standard bar hangers.

	A HOUSING WIDTH	B HOUSING LENGTH	C SPACING BETWEEN BARS	D DISTANCE FROM CUT-OUT
3x1	"וו	12 11/16"	12 1/8"	6 3/8"
5x1	"ון	13 11/16"	13 1/8"	6 7/8"
10x1	13"	15 1/2"	14 3/8"	7 7/16"

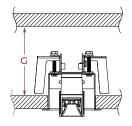
E F MUDPLATE DIMENSIONS

4 3/8" x 3" 67/8" x 5 3/8"

6 3/4" x 3" 9 1/4" x 5 3/8"

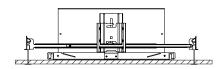
12 3/4" x 3" 15 1/4" x 5 3/8"

PLENUM CLEARANCE



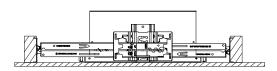
	C PLENUM CLEARANCE HEIGHT					
	OF	IC / CP	RM			
	REMOTE & INTEGRAL		INTEGRAL	REMOTE		
3x1 5x1 10x1	4 13/16"	5 3/8"	4 "	3 1/4"		

MOUNTING OPTIONS

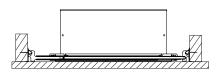


ASB - Adjustable standard bar hangers.

Grid ceiling or drywall with variable height (commercial applications)

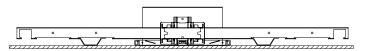


ACB - Adjustable commercial bar hangers.
Grid ceiling, drywall, metal, wood, frame mounting (also openings for multiple hanging options such as hat channel, IC channel and metal tubing, supplied by others)



FMB - Flush mount bars.

Drywall/metal/wood frame mounting (residential applications)

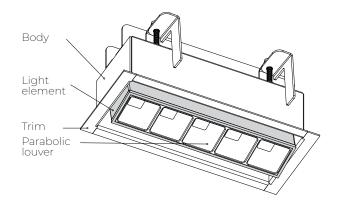


AHC - Adjustable hat channel bars. With adjustable height





Light



OPTIC

LOUVER FINISHES

Louver is injection molded with integral texture and color.



Parabolic



MWPL - Matte White Parabolic Louver



MBPL - Matte Black Parabolic Louver

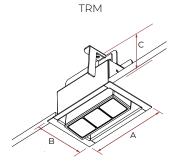


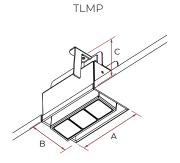
MPL - Matte Parabolic Louver



SPL - Specular Parabolic Louver

Dimensions





	TRM				
	Α	В	С		
3x1	4 7/8"				
5x1	7 1/4"	3 1/4"	3 1/4"		
10×1	13 1/4"				

TLMP					
Α	В	С			
4 1/8"					
6 9/16"	2 11/16"	3 1/4"			
12 9/16"					

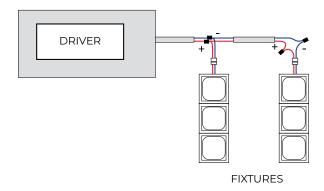


Driver

REMOTE DRIVER

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

CONNECTION IN PARALLEL



Number of lighting units per driver (minimum and maximum).

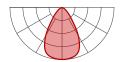
3x1	5x1	10x1
1-12	1-6	1-3
1-6	1-3	1
1-6	1-3	1
1-11	1-6	1-3
1-11	1-6	1-3
1-11	1-6	1-3
1-11	1-6	1-3
	1-12 1-6 1-6 1-11 1-11	1-12 1-6 1-6 1-3 1-6 1-3 1-11 1-6 1-11 1-6

SOLA	3x1	5x1	10x1
RSD1	1-7	1-4	1-2
DUO	3x1	5x1	10x1
RDMX	1-7	1-4	1-2
RDDA	1-7	1-4	1-2
RDDA8	1-7	1-4	1-2
DDDI	1_7	1-7	1-2

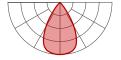
For any quantities of lighting units per driver that fall outside the minimum and maximum listed above, please consult factory.

Photometrics

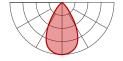
Values calculated based on 3500K, 90 CRI, and SPL.



 $\textbf{MWPL} \cdot \mathsf{Matte} \ \mathsf{White} \ \mathsf{Parabolic} \ \mathsf{Louver}$

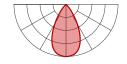


MBPL - Matte Black Parabolic Louver



RLD2

MPL - Matte Parabolic Louver



1-2

SPL - Specular Parabolic Louver

	LM	W	LM/W
3x1	584	7.3	80
5x1	957	11.5	83
10x1	1896	23.2	82

MULTIPLIER TABLE

Please follow the multiplier table to ensure correct lumen value. CCT and louver finishes will change the lumen value.

	LPW						
сст	MWPL	MBPL	MPL	SPL			
2700K	0.94	0.58	0.81	0.94			
3000K	0.97	0.6	0.83	0.97			
3500K	1	0.62	0.86	1			
4000K	1.02	0.63	0.88	1.02			
5000K	1.06	0.66	0.9	1.06			





Technical Specifications

OPTICS

Parabolic Louvers (MWPL, MBPL, MPL, SPL)

Parabolic louver optics provide excellent shielding and a pleasing crisp visual texture. The precisely molded louvers consist of 1" deep blades and side reflectors with shielding of 50° lengthwise and 45° crosswise.

The parabolic contour of the blades and side reflectors direct light into a comfortable downlight distribution with a spacing criterion of 1.1, while minimizing shadows from the LED array above each cell.

Four finishes are available. Specular aluminum (SPL) provides higher efficacy, sharper cut-off, and an ultra-quiet appearance at shallow viewing angles. matte aluminum (MPL) offers a softer appearance, a wider beam spread, and gentle brightness transition at cut-off. Matte white (MWPL) creates the highest louver brightness, while matte black (MBPL) provides a dark appearance with slightly reduced beam spread.

LIGHT SOURCE

Static white

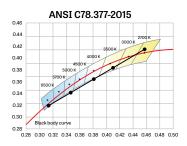
Custom array of mid-flux LEDs mounted onto aluminum-backed circuitry. Available in 2700K, 3000K, 3500K, 4000K and 5000K with a minimum 90 CRI with elevated R9 value. Color consistency is maintained to within 3 SDCM. All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

Chromawerx SOLA

It is a single-channel control that dims output while warming the color temperature in a pre-determined relationship. A simple analog control sends a common signal to dual output digital drivers, which are programmed to adjust a specially populated LED array to emulate the effect of dimming a filament source. Dimming range is programmable but the default option runs from 3500K at 100% of full power to 2200K at 5% of full power. CRI is maintained above 80 throughout the dimming range.

Chromawerx DUO

It is a two-channel control. It uses an analog (0-10V) protocol for separate control of luminaire CCT and intensity or a digital (DMX, DALI, and LD2) protocol for synchronous control of both warm and cool LED arrays to enable the user to set color temperature and light output. Commonly called "tunable white", Chromawerx two-channel control provides the range of cool (6500K) to warm (2700K) color that can be useful for helping to entrain circadian rhythms, stimulate alertness for improved educational and work productivity, and compensate for jet lag, among other applications. The Chromawerx drivers are programmed to limit maximum light output and power usage across all color temperatures. CRI is maintained above 80. 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

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

WEIGHT

	OF		IC / CP		RM	
	lb	kg	lb	kg	lb	kg
3x1	4.11	1.83	7.49	3.37	1.59	0.69
5x1	4.75	2.14	8.38	3.78	2.18	0.97
10x1	6.9	3.13	11.32	5.14	3.57	1.62

CONSTRUCTION

Housing: Die-cast aluminum **Optics**: Polycarbonate

Mounting frame: Galvanized sheet metal Driver housing: Galvanized sheet metal Mounting clips: Ø 1.0-1.4 mm spring clips Adjustable structure: Cold rolled steel Mounting bracket: Cold rolled steel Fixture case: Cold rolled steel





CERTIFICATIONS

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

Chicago Plenum: City of Chicago approved (CCEA) when specified with CP installation type option.

 ${\bf IC\ rated}$: Suitable for direct contact with insulation when specified with IC or CP installation type options.

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.

