CLUSTER
RECESSED PARABOLIC

Lumenwerx

3x1
Matte White Parabolic Louver
Flanged trim

3x1
Matte Black Parabolic Louver
Flanged trim

5x1
Matte Parabolic Louver
Trimless

2x2
Specular Parabolic Louver
Flanged trim

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 parabolic downlights are available in 3, 5, 10, 15, and 2x2 cell configurations, all with precision optics that eliminate multiple shadows, as well as subtle louver treatments.

Light Source

Static White	SOLA	DUO

Sizes

3x1   5x1   10x1

15x1   2x2

5 YEAR WARRANTY
5

Cluster Family (Refer to other spec sheets)

Recessed, Wood Slat
Downlight   Parabolic   Wall Wash

Recessed Adjustable
Downlight   Parabolic   Wall Wash

Pendant
Downlight   Parabolic   Wall Wash

Surface
Downlight   Parabolic   Wall Wash

Combo
Recessed
Pendant
Surface

Acoustix
Blank
Downlight
Parabolic

CLUSTER
RECESSED PARABOLIC

Lumenwerx

Project: _____

_____

Type: _____

Order Guide
1. HOUSING

IC RATED

LUMINAIRE ID	TRIM STYLE	LIGHT SOURCE	INSTALLATION TYPE	MOUNTING OPTION [2]	DRIVER	VOLTAGE	LUMEN PACKAGE [5]		DIMMING
CLU03RPAR - Cluster 3x1 Recessed Parabolic **CLU05RPAR** - Cluster 5x1 Recessed Parabolic **CLU10RPAR** - Cluster 10x1 Recessed Parabolic **CLU15RPAR** - Cluster 15x1 Recessed Parabolic **CLU22RPAR** - Cluster 2x2 Recessed Parabolic	**TRM** - Flanged trim **TLMP** - Trimless drywall mudplate **TLMW** - Trimless millwork	**SW** - Static white **SOLA**[1] - Dim-to -warm single channel control 35K to 22K **DUO**[1] - Tunable white 2-channel control 65K to 27K [1] Not available with integral driver option.	**OF** - Open Frame Type Non-IC **IC** - Type-IC **RM** - Remodel Type Non-IC **CP** - Chicago Plenum Type-IC (CCEA)	**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 [2] See page 3 for more details. [3] Not available with RM installation type.	**INTEGRAL**[4] [4] Not available with 2x2.	**120V** - 120V **277V** - 277V **UNV** - 120V-277V	3x1 5x1 10x1 15x1	**584LM** - 584 lm **957LM** - 957 lm **1896LM** - 1896 lm **2844LM** - 2844 lm [5] Lumen packages shown at 3500K, with SPL. For other, see lumen output multipliers on page 5.	**D1** - 1% 0-10V **ELV**[6] - ELV 120V **TRI**[6] - TRIAC 120V [6] Available with 120V only.
					REMOTE		**DO NOT SPECIFY FOR REMOTE. SEE "REMOTE DRIVER BOX" SECTION BELOW.**		

2. LIGHT

LUMINAIRE ID	TRIM STYLE	LIGHT SOURCE	OPTIC	CRI	COLOR TEMPERATURE	TRIM FINISH [7]	LOUVER FINISH
			PAR	**90CRI**			
CLU03RPARL - Cluster 3x1 Recessed Parabolic **CLU05RPARL** - Cluster 5x1 Recessed Parabolic **CLU10RPARL** - Cluster 10x1 Recessed Parabolic **CLU15RPARL** - Cluster 15x1 Recessed Parabolic **CLU22RPARL** - Cluster 2x2 Recessed Parabolic	**TRM** - Flanged trim **TLMP** - Trimless drywall mudplate **TLMW** - Trimless millwork	**SW** - Static white **SOLA** - Dim-to -warm single channel control 35K to 22K **DUO** - Tunable white 2-channel control 65K to 27K	**PAR** - Parabolic	**90CRI** - 90 CRI	**27K** - 2700K **30K** - 3000K **35K** - 3500K **40K** - 4000K **50K** - 5000K **SOLA** - Dim-to -warm single channel control 35K to 22K **DUO** - Tunable white 2-channel control 65K to 27K	**FTMW** - Textured matte white **FTMB** - Textured matte black **CF#** - Custom finish, specify RAL# [7] Applicable for trim and trimless. Body finish matches trim finish.	**MWPL** - Matte White Parabolic Louver **MBPL** - Matte Black Parabolic Louver **MPL** - Matte Parabolic Louver **SPL** - Specular Parabolic Louver

3. REMOTE DRIVER BOX

Ordered separately. Specify each required remote driver box on a separate line.

REMOTE DRIVER [8]	LUMINAIRE QTY. [9]	LUMINAIRE ID	VOLTAGE	LUMEN PACKAGE [10]			DIMMING [11]	
RDB# - Remote driver box [8] Specify each required remote driver box on a separate line.	**#X** - Number of luminaires [9] Specify number (#) of luminaires per remote driver. See page 5 for minimum and maximum per driver.	**CLU03RPAR** - Cluster 3x1 Recessed Parabolic **CLU05RPAR** - Cluster 5x1 Recessed Parabolic **CLU10RPAR** - Cluster 10x1 Recessed Parabolic **CLU15RPAR** - Cluster 15x1 Recessed Parabolic **CLU22RPAR** - Cluster 2x2 Recessed Parabolic	**120V** - 120V **277V** - 277V **UNV** - 120V-277V	Low 3x1 **200LM** - 200 lm 5x1 **239LM** - 239 lm 10x1 **474LM** - 474 lm 15x1 **711LM** - 711 lm 2x2 **184LM** - 184 lm	Medium **365LM** - 365 lm **598LM** - 598 lm **1185LM** - 1185 lm **1778LM** - 1778 lm **460LM** - 460 lm	High **584LM** - 584 lm **957LM** - 957 lm **1896LM** - 1896 lm **2844LM** - 2844 lm **735LM** - 735 lm [10] Watts and lumen per watts will vary based on the number of light units per remote driver as well as on the type of driver selected.	**RD1** - 1% 0-10V **RELV**[12,13] - ELV 120V **RTRI**[12,13] - TRIAC 120V **RDA**[14] - DALI **RLDE1**[14] - Lutron Hi-lume 1% Eco **RELD1** - eldoLED 1% ECOdrive 0-10V **RELD0** - eldoLED 0.1% SOLOdrive 0-10V	**SOLA** **RSD1** - Single 0-10V input **DUO** **RDMX**[14] - DMX **RDDA**[14] - DALI DT6 **RDDA8**[14] - DALI DT8 **RDD1** - Dual 0-10V input for CCT/Intensity **RLD2**[14] - Lutron DALI-2 digital [11] For configurations involving different Cluster sizes on a remote driver, please consult factory. [12] Available with 120V only. [13] Only available with high lumen packages. [14] On-site commissioning is required.

EXAMPLE

MOUNTING	CLU05RPAR-TRM-SW-OF-FMB-REMOTE		
LIGHT	CLU05RPARL-TRM-SW-PAR-90CRI-30K-FTMW-SPL	REMOTE DRIVER	RDB1-4X-CLU05RPAR-120V-598LM-RD1
			RDB2-2X-CLU05RPAR-120V-598LM-RD1

3737 Cote Vertu St-Laurent, Quebec, Canada H4R 2C9
T (514) 225-4304 F (514) 931 -4862
www.lumenwerx.com

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CLUSTER-RECESSED-PARABOLIC-SPEC-REV8   December 18, 2024

CLUSTER
RECESSED PARABOLIC

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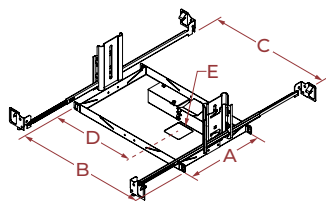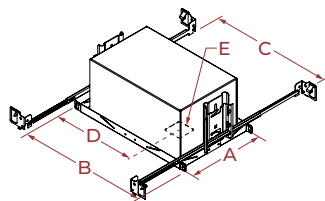
Mounting

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".
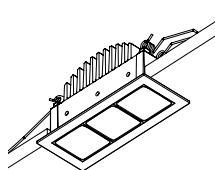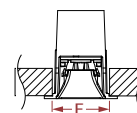
INSTALLATION TYPES

OF
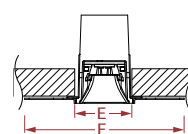Open Frame

IC or **CP**
Type-IC / Chicago Plenum

RM
Remodel

### CUT-OUT DIMENSIONS

TRM
Flanged trim

TLMP
Trimless drywall mudplate

Shown with adjustable standard bar hangers.

|	A HOUSING WIDTH	B HOUSING LENGTH	C SPACING BETWEEN BARS	D DISTANCE FROM CUT-OUT
3x1	8 9/16"	13 5/16"	12 3/4"	5 3/8"
5x1	8 9/16"	13 5/16"	12 3/4"	6 5/8"
10x1	10 1/16"	19 5/16"	18 3/4"	10 5/8"
15x1	10 1/16"	25 5/16"	26 9/16"	12 1/16
2x2	10 3/4"	12 1/16"	12 11/16"	7 1/2"

E CUT-OUT DIMENSIONS	F MUDPLATE DIMENSIONS
4" x 1 9/16"	6 5/16" x 3 15/16"
6 3/8" x 1 9/16"	8 11/16" x 3 15/16"
12 3/8" x 1 9/16"	14 11/16" x 3 15/16"
18 3/8" x 1 9/16"	20 11/16" x 3 15/16"
2 13/16" x 2 13/16"	5 1/8" x 5 1/8"

PLENUM CLEARANCE DIMENSIONS
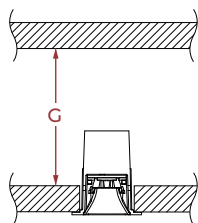
	G PLENUM CLEARANCE HEIGHT			
	OF	IC / CP	RM	
	REMOTE & INTEGRAL		INTEGRAL	REMOTE
3x1	4 13/16"	5 3/8"	4 13/16"	2 3/16"
5x1 10x1 15x1	4 13/16"	5 3/8"	4"	2 3/16"
2x2	6"	6 1/8"	6"	1 15/16"

MOUNTING OPTIONS
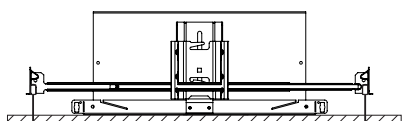
ASB - Adjustable standard bar hangers.
Grid ceiling or drywall with variable height (commercial applications)

FMB - Flush mount bars.
Drywall/metal/wood frame mounting (residential applications)
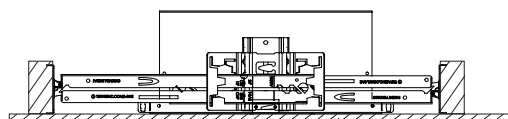
ACB - Adjustable commercial bar hangers.
Grid ceiling, drywall, metal, wood, frame mounting (also openings for multiple hanging options such as hat channel, IC channel and metal tubing, supplied by others)
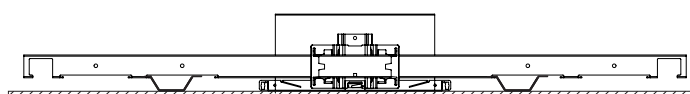
AHC - Adjustable hat channel bars.
With adjustable height

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Light

Body

Spring

Trim
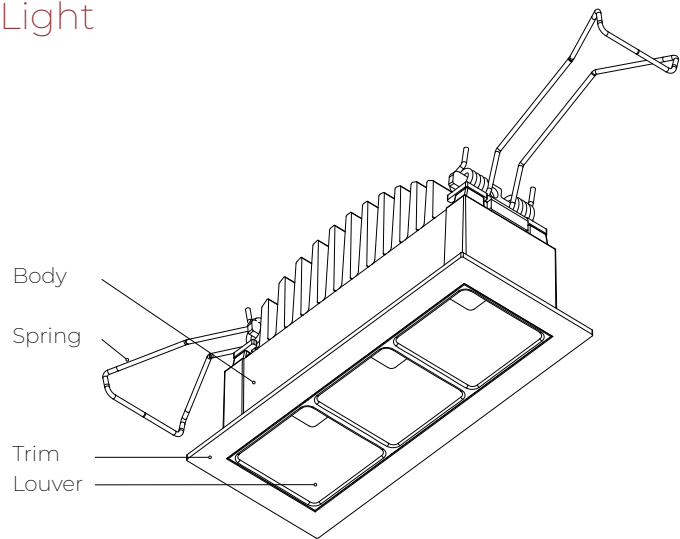
Louver

OPTIC

Parabolic

LOUVER FINISHES

Louver is injection molded with integral texture and color.

MWPL - Matte White
Parabolic Louver

MBPL - Matte Black
Parabolic Louver

MPL - Matte
Parabolic Louver

SPL - Specular
Parabolic Louver

Dimensions

TRM

TLMP/TLMW

	TRM			TLMP/TLMW		
	A	B	C	A	B	C
3x1	4 3/16"			3 13/16"		
5x1	6 9/16"			6 3/16"		
10x1	12 9/16"	1 13/16"	2 3/16"	12 3/16"	1 3/8"	2 3/16"
15x1	18 9/16"			18 3/16"		
2x2	3"	3"	1 15/16"	2 9/16"	2 9/16"	1 15/16"

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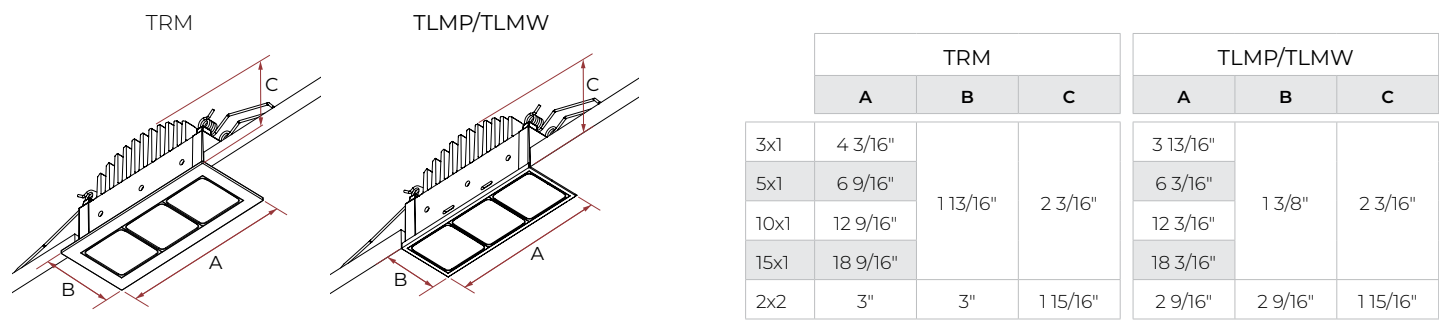
Driver

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).

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

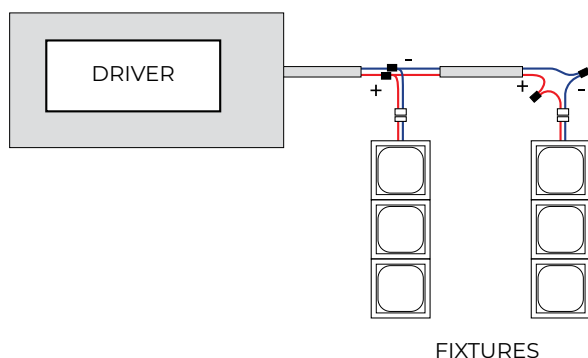| Static white	3x1	5x1	10x1	15x1	2x2
RD1	1-12	1-6	1-3	1-2	1-6
RELV	1-6	1-3	1	1	1-3
RTRI	1-6	1-3	1	1	1-3
RDA	1-11	1-6	1-3	1-2	1-6
RLDE1	1-11	1-6	1-3	1-2	1-6
RELD1	1-11	1-6	1-3	1-2	1-6
RELD0	1-11	1-6	1-3	1-2	1-6

SOLA	3x1	5x1	10x1	15x1	2x2
RSD1	1-7	1-4	1-2	1	1-4

DUO	3x1	5x1	10x1	15x1	2x2
RDMX	1-7	1-4	1-2	1	1-4
RDDA	1-7	1-4	1-2	1	1-4
RDDA8	1-7	1-4	1-2	1	1-4
RDD1	1-7	1-4	1-2	1	1-4
RLD2	2-7	1-4	1-2	1	1-4

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

CONNECTION IN PARALLEL

DRIVER

FIXTURES

Photometrics

Values calculated based on 3500K, 90 CRI, and SPL.
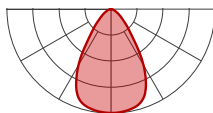
MWPL - Matte White Parabolic Louver
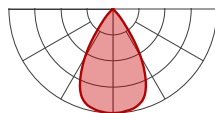
MBPL - Matte Black Parabolic Louver
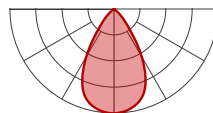
MPL - Matte Parabolic Louver
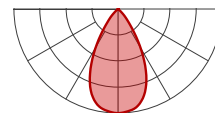
SPL - Specular Parabolic Louver

	LM	W	LM/W
3x1	584	7.3	80
5x1	957	11.5	83
10x1	1896	23.2	82
15x1	2844	34.8	82
2x2	735	9.5	78

MULTIPLIER TABLE

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

	LPW			
CCT	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

3737 Cote Vertu St-Laurent, Quebec, Canada H4R 2C9
T (514) 225-4304 F (514) 931 -4862
www.lumenwerx.com

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Lumenwerx

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.

ANSI C78.377-2015
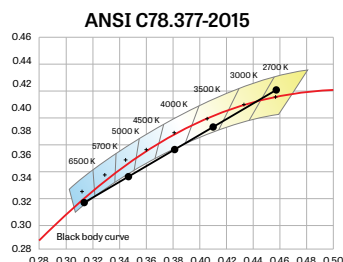
ELECTRICAL

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	3.00	1.34	6.04	2.72	0.70	0.30
5x1	3.60	1.63	6.45	2.93	1.10	0.50
10x1	5.49	2.48	9.99	4.52	2.00	0.90
15x1	7.10	3.23	12.90	5.86	3.00	1.36
2x2	3.14	1.41	6.67	3.01	0.70	0.30

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

ETL LISTED Intertek

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.

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.