

CLUSTER

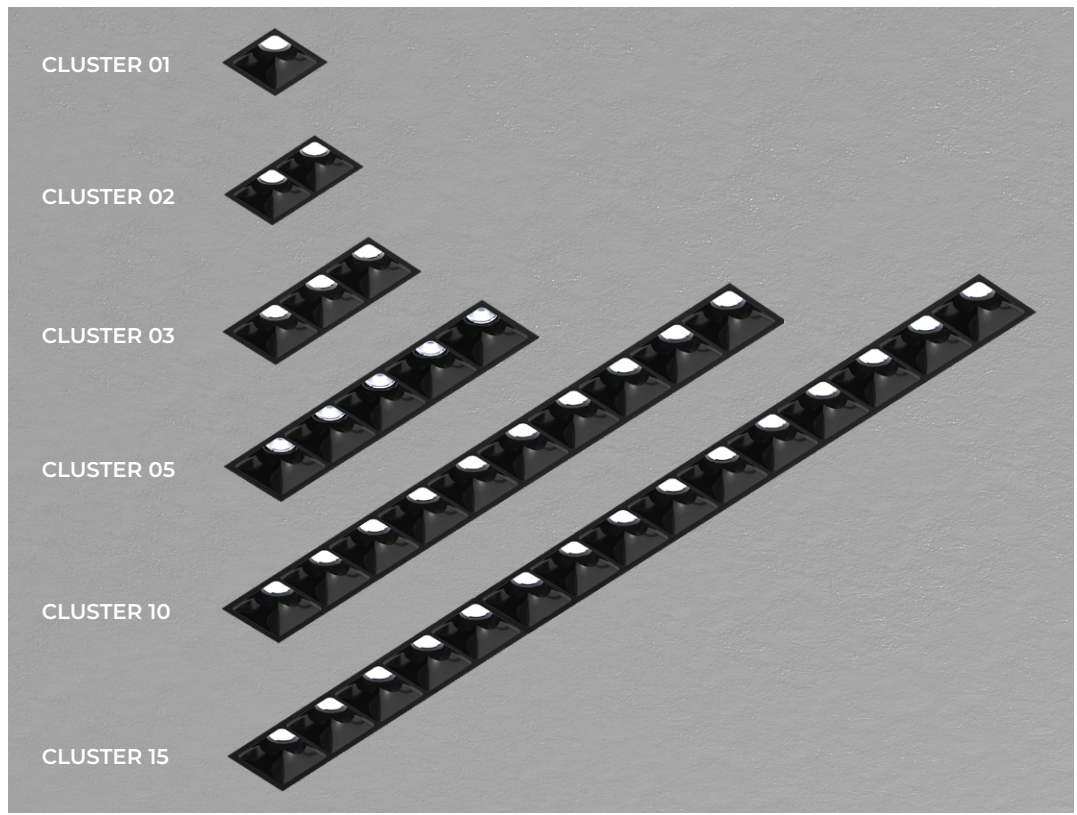
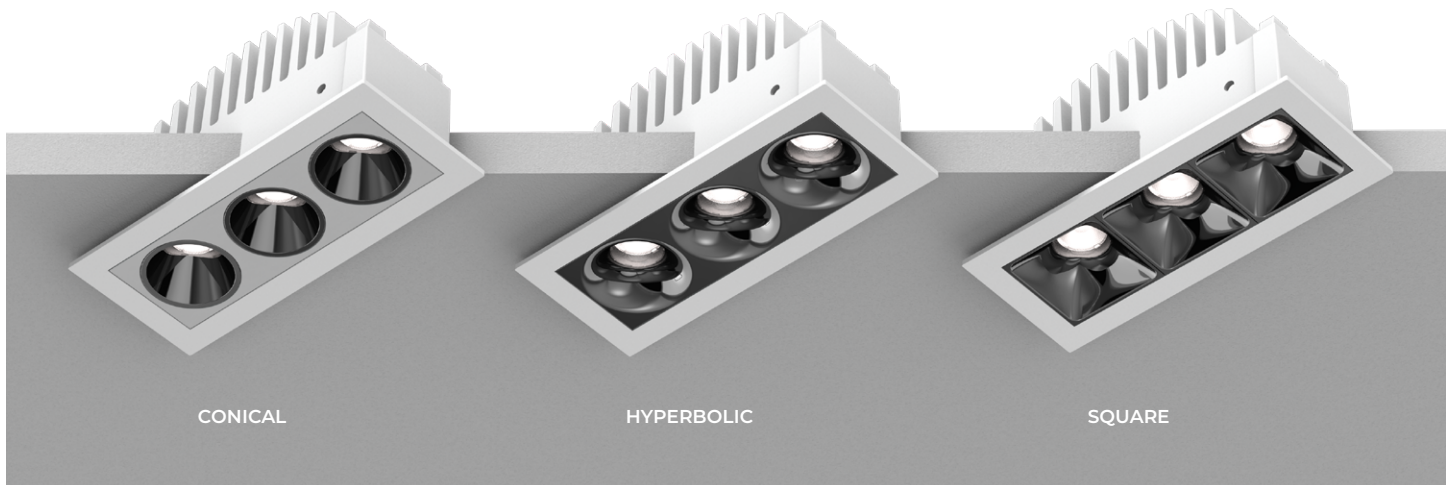
RECESSED LINEAR

LUMENWERX

DESCRIPTION

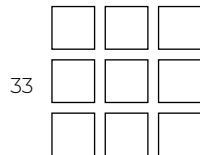
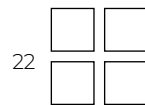
Cluster is the precise, and scalable family of downlights, wall washers, and adjustables, available in both linear and planar configurations and for recessed, pendant, and surface mounting. Based on a fundamental 1.2" square cell, Cluster delivers lighting that is optically sophisticated and aesthetically refined. Cluster recessed linear downlights range from a single point to a 15 cell luminaire, all with a choice of precision optics, beam spreads and subtle louver treatments. Nominal light output is 200 lumens per cell.

All recessed Cluster can install in a variety of ceiling types and materials, with either an integral driver or a remote driver that is capable of powering multiple luminaires.



PLANAR SIZES

See planar spec sheet



CLUSTER

RECESSED LINEAR

LUMENWERX

Project: _____

Type: _____

Order Guide

1. HOUSING

IC RATED

Housing can be ordered separately.

LUMINAIRE ID	TRIM STYLE	LIGHT SOURCE	INSTALLATION TYPE	MOUNTING OPTION ¹	DRIVER	VOLTAGE	LUMEN PACKAGE ³	DIMMING	
		SW							
CLU01R - Cluster 1x1 Recessed CLU02R - Cluster 2x1 Recessed CLU03R - Cluster 3x1 Recessed CLU05R - Cluster 5x1 Recessed CLU10R - Cluster 10x1 Recessed CLU15R - Cluster 15x1 Recessed	TRM - Flanged trim TLMP - Trimless drywall mudplate TLMW - Trimless millwork	SW - Static white	OF - Open Frame Type Non-IC IC - Type-IC RM - Remodel Type Non-IC CP - Chicago Plenum Type-IC (CCEA)	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	INTEGRAL	120V - 120V 277V - 277V	CLU01R - 200LM - 200 lm CLU02R - 380LM - 380 lm CLU03R - 578LM - 578 lm CLU05R - 923LM - 923 lm CLU10R - 1791LM - 1791 lm CLU15R - 2600LM - 2600 lm	CLU01R, CLU02R - ND - No dimming CLU03R - CLU15R - D1 - 1% 0-10V ELV ⁴ - ELV 120V TRI ⁴ - TRIAC 120V	
					REMOTE	DO NOT SPECIFY FOR REMOTE. SEE "REMOTE DRIVER BOX" SECTION BELOW.			

¹ See page 4 for more details.
² Not available with RM installation type.

³ Lumen packages shown at 3500K, with SOF-NFL 25°. For other, see lumen output multipliers on page 6.
⁴ Available with 120V only.

2. LIGHT

LUMINAIRE ID	TRIM STYLE	LIGHT SOURCE	OPTIC	BEAM	CRI	COLOR TEMP.	TRIM FINISH ⁵	LOUVER	LOUVER FINISH
		SW			90CRI				
CLU01RL - Cluster 1x1 Recessed CLU02RL - Cluster 2x1 Recessed CLU03RL - Cluster 3x1 Recessed CLU05RL - Cluster 5x1 Recessed CLU10RL - Cluster 10x1 Recessed CLU15RL - Cluster 15x1 Recessed	TRM - Flanged trim TLMP - Trimless drywall mudplate TLMW - Trimless millwork	SW - Static white	SOF - Soft edge downlight REF - Sharp edge downlight	SOE NFL - Narrow flood FLD - Flood WFL - Wide flood REF SPT - Spot FLD - Flood WFL - Wide flood	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#	CON ⁶ - Conical HYP - Hyperbolic SQR - Square	MF01 - Matte white MF04 - Matte black BL05 - Black chrome GL06 - Gold CP06 - Copper

⁵ Applicable for trim and trimless. Body finish matches trim finish.
⁶ Faceplate matches body finish black and white only.

3. REMOTE DRIVER BOX

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

REMOTE DRIVER ⁷	LUMINAIRE QTY. ⁸	LUMINAIRE ID	VOLTAGE	LUMEN PACKAGE ⁹	DIMMING ¹¹																												
RDB# - Remote driver box ⁷ Specify each required remote driver box on a separate line.	#X - Number of luminaires ⁸ Specify number (#) of luminaires per remote driver.	CLU01R - Cluster 1x1 Recessed CLU02R - Cluster 2x1 Recessed CLU03R - Cluster 3x1 Recessed CLU05R - Cluster 5x1 Recessed CLU10R - Cluster 10x1 Recessed CLU15R - Cluster 15x1 Recessed	120V - 120V 277V - 277V UNV - 120V-277V	<table border="1"> <thead> <tr> <th></th> <th>Low¹⁰</th> <th>Medium¹⁰</th> <th>High</th> </tr> </thead> <tbody> <tr> <td>CLU01R</td> <td>50LM - 50 lm</td> <td>125LM - 125 lm</td> <td>200LM - 200 lm</td> </tr> <tr> <td>CLU02R</td> <td>95LM - 95 lm</td> <td>238LM - 238 lm</td> <td>380LM - 380 lm</td> </tr> <tr> <td>CLU03R</td> <td>145LM - 145 lm</td> <td>362LM - 362 lm</td> <td>578LM - 578 lm</td> </tr> <tr> <td>CLU05R</td> <td>230LM - 230 lm</td> <td>577LM - 577 lm</td> <td>923LM - 923 lm</td> </tr> <tr> <td>CLU10R</td> <td>448LM - 448 lm</td> <td>1120LM - 1120 lm</td> <td>1791LM - 1791 lm</td> </tr> <tr> <td>CLU15R</td> <td>650LM - 650 lm</td> <td>1625LM - 1625 lm</td> <td>2600LM - 2600 lm</td> </tr> </tbody> </table>		Low ¹⁰	Medium ¹⁰	High	CLU01R	50LM - 50 lm	125LM - 125 lm	200LM - 200 lm	CLU02R	95LM - 95 lm	238LM - 238 lm	380LM - 380 lm	CLU03R	145LM - 145 lm	362LM - 362 lm	578LM - 578 lm	CLU05R	230LM - 230 lm	577LM - 577 lm	923LM - 923 lm	CLU10R	448LM - 448 lm	1120LM - 1120 lm	1791LM - 1791 lm	CLU15R	650LM - 650 lm	1625LM - 1625 lm	2600LM - 2600 lm	RD1 - 1% 0-10V RELV ¹² - ELV 120V RTRI ¹² - TRIAC 120V RLDA ¹³ - DALI RLDEI ¹³ - Lutron Hi-lume 1% Eco RELD1 - eldoLED 1% Eco RELD0 - eldoLED 0.1% SOLOdrive 0-10V
	Low ¹⁰	Medium ¹⁰	High																														
CLU01R	50LM - 50 lm	125LM - 125 lm	200LM - 200 lm																														
CLU02R	95LM - 95 lm	238LM - 238 lm	380LM - 380 lm																														
CLU03R	145LM - 145 lm	362LM - 362 lm	578LM - 578 lm																														
CLU05R	230LM - 230 lm	577LM - 577 lm	923LM - 923 lm																														
CLU10R	448LM - 448 lm	1120LM - 1120 lm	1791LM - 1791 lm																														
CLU15R	650LM - 650 lm	1625LM - 1625 lm	2600LM - 2600 lm																														

⁹ 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.
¹⁰ Not available with RELV and RTRI dimming options.

¹¹ For configurations involving different cluster sizes on a remote driver, please consult factory.
¹² Available with 120V only.
¹³ On-site commissioning is required.

REMOTE DRIVER EXAMPLE CODE:

MOUNTING	CLU05R-TRM-SW-OF-FMB-REMOTE	REMOTE DRIVER	RDB1-4X-CLU05R-120V-577LM-RD1
LIGHT	CLU05RL-TRM-SW-SOF-NFL-90CRI-30K-FTMW-CON-MF01		RDB2-2X-CLU05R-120V-577LM-RD1

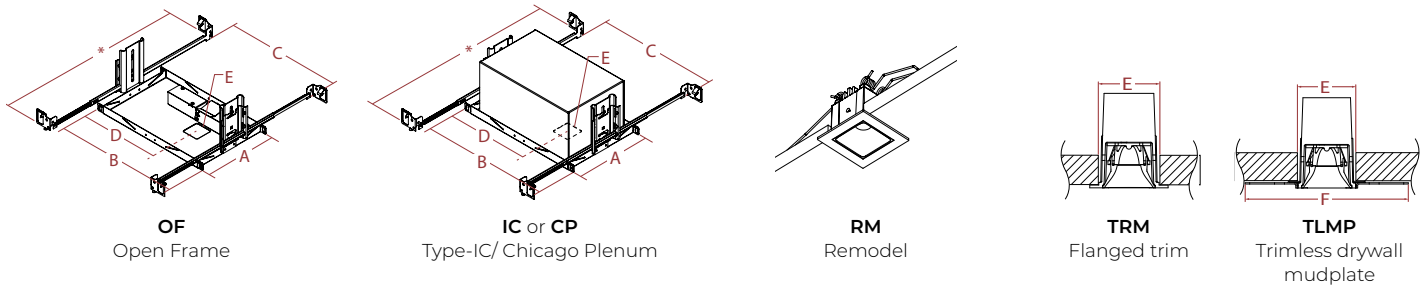


MOUNTING

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 TYPE	MOUNTING OPTION ^{1,2}	TRIM TYPE
OF - Open Frame Type Non-IC IC - Type-IC RM - Remodel Type Non-IC CP - Chicago Plenum Type-IC (CCEA)	ASB - Adjustable standard bar hangers FMB - Flush mount bars ACB - Adjustable commercial bar hangers AHC - Adjustable hat channel bars NA - Not applicable	TRM - Flanged trim TLMP - Trimless drywall mudplate TLMW - Trimless millwork
¹ For detailed mounting option dimensions, see page 4. ² Specify NA for remodel (RM) installation type.		

INSTALLATION TYPE ⁴



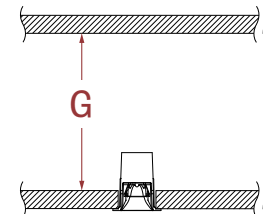
⁴ Drawings shown with adjustable standard bar hangers.

	A HOUSING WIDTH	B HOUSING LENGTH	C SPACING BETWEEN BARS	D DISTANCE FROM CUT-OUT
CLUR01	7"	11 11/16"	11 1/8"	7 7/32"
CLUR02	7"	11 11/16"	11 1/8"	6 7/8"
CLUR03	8 9/16"	13 5/16"	12 3/4"	5 3/8"
CLUR05	8 9/16"	13 5/16"	12 3/4"	6 5/8"
CLUR10	10 1/16"	19 5/16"	18 3/4"	10 5/8"
CLUR15	10 1/16"	25 5/16"	26 9/16"	12 1/16"

E CUT-OUT DIMENSIONS	F MUDPLATE DIMENSIONS
1 9/16" x 1 9/16"	3 29/32" x 3 29/32"
2 3/4" x 1 9/16"	5 3/32" x 3 29/32"
4" x 1 9/16"	6 5/16" x 3 29/32"
6 3/8" x 1 9/16"	8 11/16" x 3 29/32"
12 3/8" x 1 9/16"	14 11/16" x 3 29/32"
18 3/8" x 1 9/16"	20 11/16" x 3 29/32"

PLENUM CLEARANCE DIMENSIONS

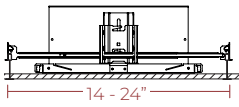
	G PLENUM CLEARANCE HEIGHT			
	REMOTE & INTEGRAL		INTEGRAL	REMOTE
	OPEN FRAME	IC / CP	REMODEL	REMODEL
CLUR01	4 13/16"	4 7/8"	4"	2 5/32"
CLUR02	4 13/16"	4 7/8"	4"	1 15/16"
CLUR03	4 13/16"	5 3/8"	4 13/16"	2 5/32"
CLUR05	4 13/16"	5 3/8"	4"	2 5/32"
CLUR10	4 13/16"	5 3/8"	4"	2 5/32"
CLUR15	4 13/16"	5 3/8"	4"	2 5/32"



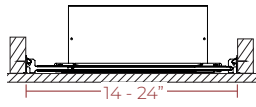
CLUSTER RECESSED LINEAR

LUMENWERX

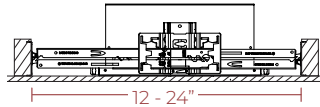
MOUNTING OPTIONS



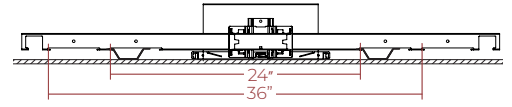
ASB - Adjustable standard bar hangers
Grid ceiling or drywall with variable height (commercial applications)



FMB - Flush mount bracket
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)



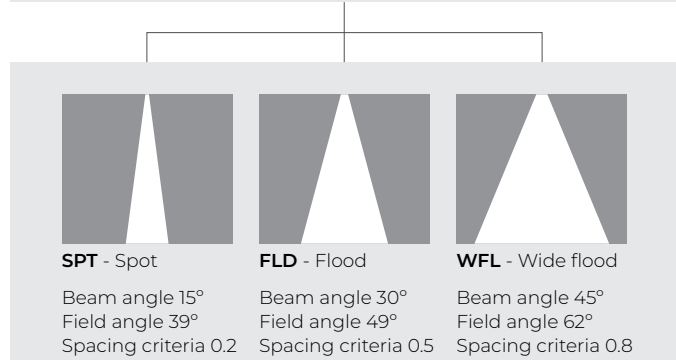
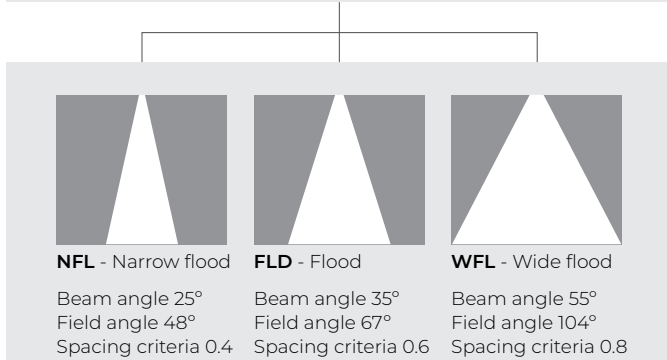
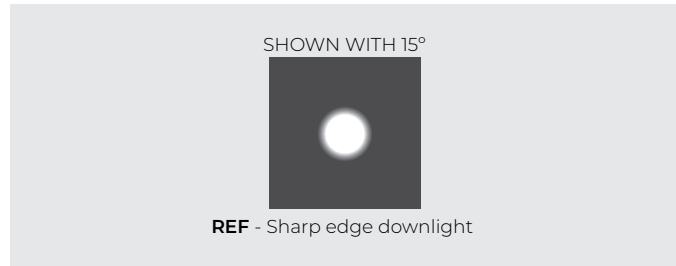
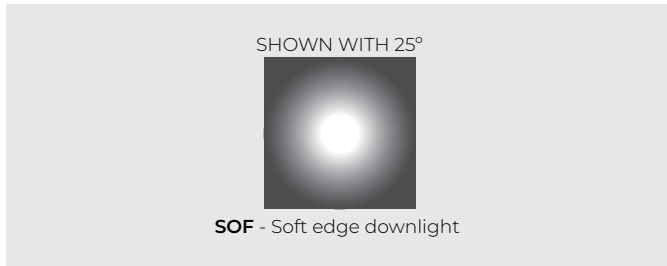
AHC - Adjustable hat channel bars
With adjustable height

FIXTURE DIMENSIONS

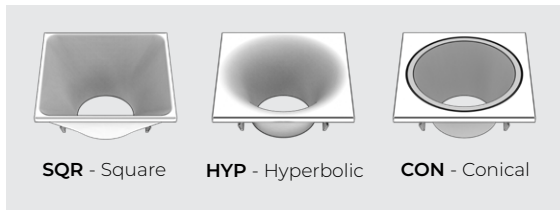
	BODY TYPE	
	TRM Flanged trim	TLMP Trimless drywall mudplate
CLURL01		
CLURL02		
CLURL03		
CLURL05		
CLURL10		
CLURL15		

LIGHT

OPTICS & BEAM ANGLE

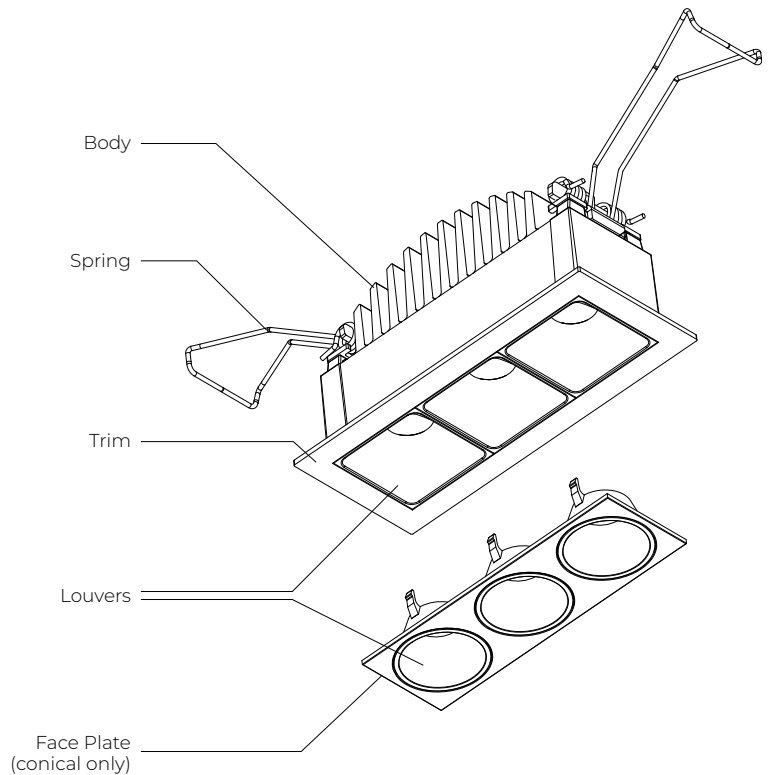


LOUVER SHAPE



LOUVER FINISH

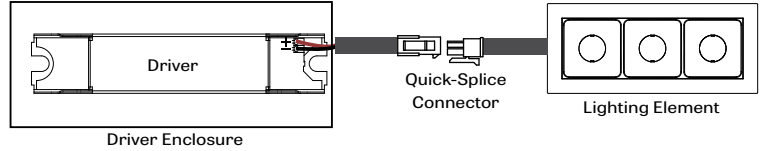
Louvers are injection molded with integral texture and color



DRIVER

INTEGRAL DRIVER

The integral driver is sized to the lighting unit and is connected directly to it with Class 2 wiring and quick-splice connectors. The driver enclosure can be serviced through the ceiling by removing the lighting unit.



MULTIPLIER

GENERAL LUMEN OUTPUT MULTIPLIER AT 90 CRI

OPTICS	2700K						3000K						3500K						4000K					
	SOFT			SHARP			SOFT			SHARP			SOFT			SHARP			SOFT			SHARP		
BEAM ANGLE	25	35	55	15	30	45	25	35	55	15	30	45	25	35	55	15	30	45	25	35	55	15	30	45
LUMEN OUTPUT MULTIPLIER	0.87	0.92	0.82	0.80	0.84	0.86	0.93	0.99	0.87	0.86	0.89	0.92	1	1.06	0.94	0.92	0.96	0.99	1.03	1.09	0.97	0.95	0.99	1.02

LUMEN PACKAGE (AT 3500K, SOFT 25° BEAM) - INTEGRAL DRIVER

LUMINAIRE ID	LUMEN OUTPUT	WATTS	EFFICACY LM/W	LUMEN PACKAGE	VOLTAGE	INTEGRAL DRIVER
CLUR01	200 lm	3.3 W	60 lm/W	Use the multiplier tables to calculate the lumen package	120 - 120V 277 - 277V	CLUR01, CLUR02 ND - No dimming
CLUR02	380 lm	6.1 W	63 lm/W			CLUR03, CLUR05, CLUR10, CLUR15 D1 - 1% 0-10V ELV ¹ - ELV 120V TRI ¹ - TRIAC 120V
CLUR03	578 lm	7.8 W	74 lm/W			
CLUR05	923 lm	11.8 W	78 lm/W			
CLUR10	1791 lm	23.6 W	76 lm/W			
CLUR15	2600 lm	34.2 W	76 lm/W			

¹ Available with 120V only.

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).

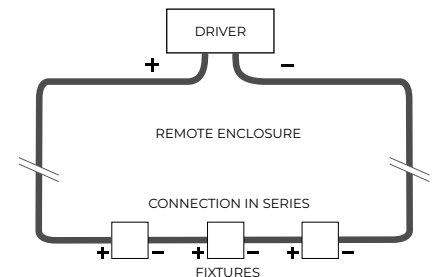
LUMEN PACKAGE¹ (AT 3500K) - REMOTE DRIVER

LUMINAIRE ID	LUMEN PACKAGE ²			VOLTAGE	REMOTE DRIVER	NUMBER OF LIGHTING UNITS PER DRIVER
CLUR01 CLUR02 CLUR03 CLUR05 CLUR10 CLUR15	LOW 50 lm 125 lm	MEDIUM 125 lm 238 lm	HIGH 200 lm 380 lm	120 - 120V 277 - 277V UNV - 120V-277V	RD1 - 1% 0-10V RELV ³ - ELV 120V RTRI ³ - TRIAC 120V RDA ⁴ - DALI RLDE1 ⁴ - Lutron Hi-lume 1% Eco	See table below for maximum and minimum possible number of lighting units per each driver. For configurations involving different cluster sizes on a remote driver, please consult factory.
	² Low and medium options are not available with RELV and RTRI.				³ Available with 120V only. ⁴ On-site commissioning is required.	

¹ Watts and lumen per watts will vary based on the number of lighting units per remote driver as well as on the type of driver selected.

NUMBER OF LIGHTING UNITS PER DRIVER - MINIMUM AND MAXIMUM

DRIVER TYPE	CLUR01	CLUR02	CLUR03	CLUR05	CLUR10	CLUR15
D1 - 1% 0-10V	8-24	4-12	3-8	2-4	1-2	1
ELV - ELV 120V	10-14	5-7	3-4	2	1	-
TRI - TRIAC 120V	10-14	5-7	3-4	2	1	-
DA - DALI	8-24	4-12	3-8	2-4	1-2	1
LDE1 - Lutron Hi-lume 1% Eco	8-16	4-8	3-5	2-3	1	1



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

CLUSTER

RECESSED LINEAR

LUMENWERX

OPTICS

SOFT-EDGED FEATHERED BEAM (SOF)

The Soft-Edged Feathered Beam blends the light into darker areas for a gentle brightness transition. Each LED emitter directs light through a single, custom molded circular optic using total internal reflection (TIR) to shape the light. A 0.5" reflective square louver provides a cut off with a UGR of 10. Three different TIR elements create a choice of beam spread: 25° narrow flood (NFL), 35° flood (FLD), or 55° wide flood (WFL), or 55° wide flood (WFL).

SHARP-EDGED CUT-OFF BEAM (REF)

The Sharp-Edged Cut-Off Beam creates dramatic impact, limiting the spread of light outside of the primary beam. A molded conical reflector redirects light from each emitter into the desired beam angle. A 0.5" reflective square louver provides a cut off with a UGR of 10. Three different TIR elements create a choice of beam spread: 15° spot (SPT), 30° flood (FLD), or 45° wide flood (WFL).

LIGHT SOURCE

Custom array of high-flux LEDs mounted onto aluminum-backed circuitry. Available in 2700K, 3000K, 3500K and 4000K 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.

WEIGHT

	BODY		OPEN FRAME		TYPE-IC WITH CHICAGO PLENUM	
	Lb	Kg	Lb	Kg	Lb	Kg
CLUR01	0.50	0.20	1.44	0.65	3.73	1.69
CLUR02	0.60	0.25	1.42	0.64	3.72	1.69
CLUR03	0.70	0.30	2.30	1.04	5.34	2.42
CLUR05	1.10	0.50	2.50	1.13	5.35	2.43
CLUR10	2.00	0.90	3.49	1.58	7.99	3.62
CLUR15	3.00	1.36	4.10	1.87	9.90	4.50

CONSTRUCTION

Housing - Die-cast aluminum (0.95" nominal)

Optics - Polycarbonate

Mounting frame - 22 gauge galvanized sheet metal

Driver housing - 18 gauge galvanized sheet

Mounting clips - Ø1.0-1.4mm spring clips

CERTIFICATIONS

ETL - Rated for indoor dry/damp locations.

Conforms to UL 1598 Standard and certified to CAN/CSA Standard C22.2 No. 250.0

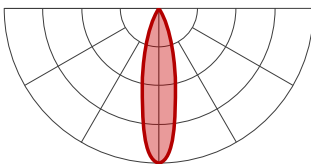
Chicago plenum - City of Chicago approved (CCEA) when specified with CP installation type option.

IC rated - Suitable for direct contact with insulation when specified with IC or CP installation type options.

WARRANTY

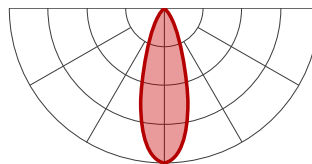
Lumenwerx provides a five-year limited warranty on electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. Lumenwerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated in accordance with our specifications. Other limitations apply, please refer to the full warranty on our website.

SOFT-EDGE DOWNLIGHT



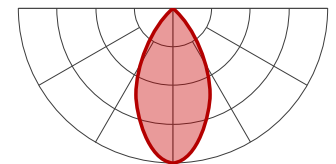
NFL - Narrow flood

Beam angle 25°
Field angle 48°
Spacing criteria 0.4



FLD - Flood

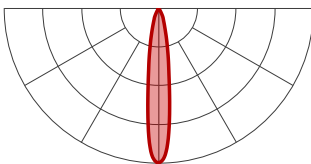
Beam angle 35°
Field angle 67°
Spacing criteria 0.6



WFL - Wide flood

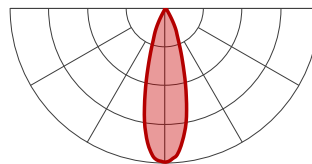
Beam angle 55°
Field angle 104°
Spacing criteria 0.8

SHARP-EDGE DOWNLIGHT



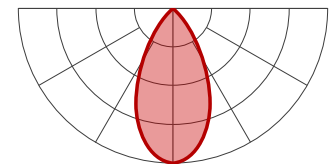
SPT - Spot

Beam angle 15°
Field angle 39°
Spacing criteria 0.2



FLD - Flood

Beam angle 30°
Field angle 49°
Spacing criteria 0.5



WFL - Wide flood

Beam angle 45°
Field angle 62°
Spacing criteria 0.8