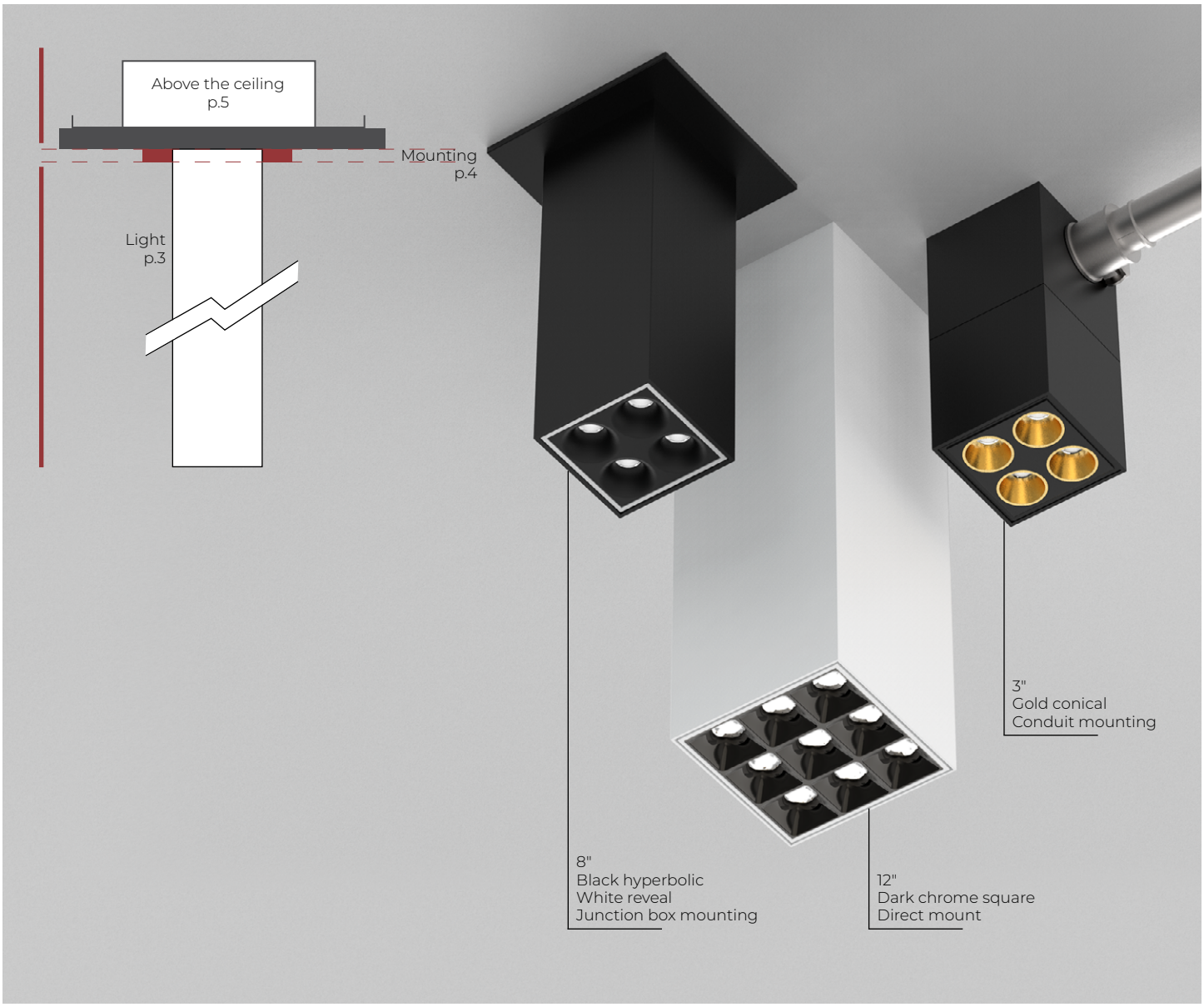
CLUSTER
SURFACE PLANAR

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 deliver lighting that is optically sophisticated and aesthetically refined. Cluster surface planar downlights are available in 2x2 and 3x3 cell configurations, all with a choice of precision optics, beam spreads and subtle louver treatments. Surface downlights fit a choice of 3", 8" or 12" deep cuboid enclosures. Nominal light output is 200 lumens per cell. Surface Cluster mount using a choice of direct mount, junction box with canopy, and conduit feed with splice enclosure. Driver is either integral or remote, which is capable of powering multiple luminaires.



CLUSTER
SURFACE PLANAR

LUMENWERX

Project: _____

_____

Type: _____

Order Guide
LIGHT

LUMINAIRE ID	CUBOID HEIGHT [1]	CUBOID FINISH	LOUVER	LOUVER FINISH
CLU22S - Cluster 2x2 Surface **CLU33S -** Cluster 3x3 Surface	**3IN** - 3" **8IN** - 8" **12IN** - 12" [1] Conduit feed canopy option will add 3" to total height.	**FTMW** - Textured matte white **FTMB** - Textured matte black **CF#** - Custom finish, specify RAL#	**CON** [2] - Conical **HYP** - Hyperbolic **SQR** - Square [2] Faceplate matches body finish black and white only.	**MF01** - Matte white **MF04** - Matte black **BL05** - Black chrome **GL06** - Gold **CP06** - Copper

REVEAL FINISH	LIGHT SOURCE	OPTIC	BEAM		CRI	COLOR TEMP.
	SW				**90CRI**	
FTMW - Textured matte white **FTMB** - Textured matte black **CF#** - Custom finish, specify RAL#	**SW** - Static white	**SOF** - Soft edge downlight **REF** - Sharp edge downlight	SOF **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

DRIVER	VOLTAGE	LUMEN PACKAGE [4]		DIMMING	CANOPY TYPE [6]	CANOPY FINISH Specify NA for DMRM
INTEGRAL [3] [3] Not available with 3" cuboid height.	**120V** - 120V **277V** - 277V	CLU22S	**811LM** - 811 lm	**D1** - 1% 0-10V **ELV** [5] - ELV 120V **TRI** [5] - TRIAC 120V [5] Available with 120V only.	**FLS** - Flat square canopy, 4" octagonal junction box **CDRE** - Conduit feed, rectangular canopy **DMRM** [7] - Direct mount, remodel [6] See page 4 for details. [7] Single wiring entry only. No daisy chain connections allowed. May be installed as new construction but without a j-box.	**FTMW** - Textured matte white **FTMB** - Textured matte black **CF#** - Custom finish, specify RAL# **NA** - Not applicable
		CLU33S	**1743LM** - 1743 lm			
		[4] Lumen packages shown at 3500K, with SOF-NFL 25°. For other, see lumen output multipliers on page 5.				
REMOTE	DO NOT SPECIFY FOR REMOTE. SEE "REMOTE DRIVER BOX" SECTION BELOW.					

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 [12]
					Low [11]	Medium [11]	High	
RDB# - Remote driver box [8] Specify an RDB number (#) for each required remote driver box.	**#X** - Number of luminaires [9] Specify number (#) of luminaires per remote driver.	**CLU22S -** Cluster 2x2 Surface **CLU33S -** Cluster 3x3 Surface	**120V** - 120V **277V** - 277V **UNV** - 120V-277V	CLU22S	**203LM** - 203 lm	**507LM** - 507 lm	**811LM** - 811 lm	**RD1** - 1% 0-10V **RELV** [13] - ELV 120V **RTRI** [13] - TRIAC 120V **RDA** [14] - DALI **RLDE1** [14] - Lutron Hi-lume 1% Eco **ELD1** - eldoLED 1% ECOdrive 0-10V **ELD0** - eldoLED 0.1% SOLOdrive 0-10V [12] For configurations involving different cluster sizes on a remote driver, please consult factory. [13] Available with 120V only. [14] On-site commissioning is required.
				CLU33S	**436LM** - 436 lm	**1089LM** - 1089 lm	**1743LM** - 1743 lm	
				[10] 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. [11] Not available with RELV and RTRI dimming options.				

EXAMPLE CODE:

INTEGRAL DRIVER

LIGHT	CLU22S-8IN-FTMW-CON-MF01-FTMW-SW-SOF-NFL-90CRI-35K-INTEGRAL-120V-811LM-ND-FLS-FTMW	REMOTE DRIVER	N/A

REMOTE DRIVER

LIGHT	CLU22S-3IN-FTMW-CON-MF01-FTMW-SW-SOF-NFL-90CRI-35K-REMOTE-FLS-FTMW	REMOTE DRIVER	RDB1-6X-CLU22S-120V-507LM-RD1 RDB2-2X-CLU22S-120V-507LM-RD1

LIGHT

OPTICS & BEAM ANGLE

SHOWN WITH 25°

SOF - 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

SHOWN WITH 15°

REF - Sharp edge downlight

SPT - Spot

Beam angle 15°
Field angle 39°
Spacing criteria 0.2

FLD - Flood

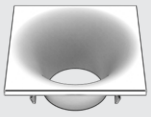
Beam angle 30°
Field angle 49°
Spacing criteria 0.5

WFL - Wide flood

Beam angle 45°
Field angle 62°
Spacing criteria 0.8

LOUVER SHAPE

SQR - Square



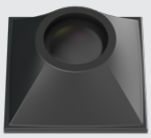
HYP - Hyperbolic

CON - Conical

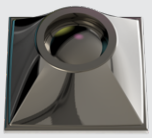
LOUVER FINISH

Louver is injection molded with integral texture and color

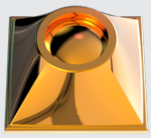
MF01 -
Matte white



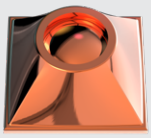
MF04 -
Matte black



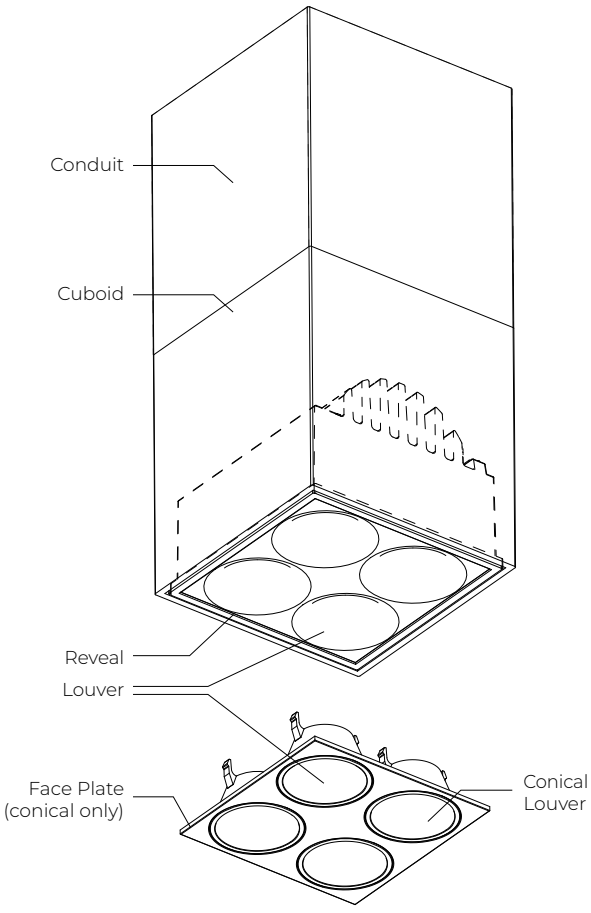
BL05 -
Black chrome



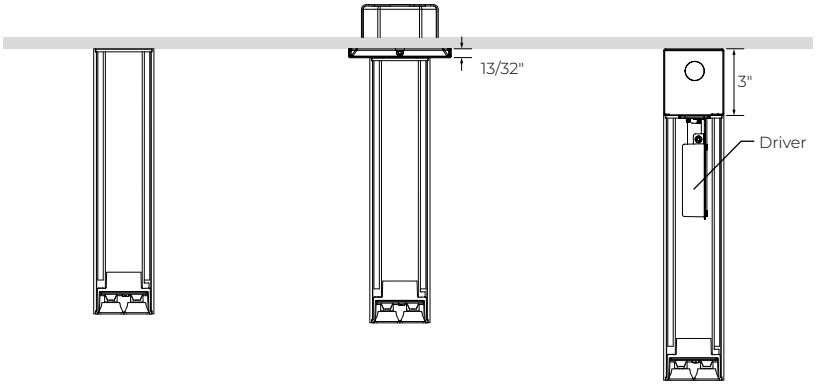
GL06 - Gold



CP06 - Copper



MOUNTING



DMRM - Direct mount

FLS - Flat square
To be attached on a hexagonal junction box

Junction box is covered by the junction box plate

CDRE - Conduit
For concrete ceiling
Add 3" to the cuboid length

MOUNTING TYPE

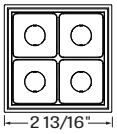
Direct mount	**DMRM**
Flat square	**FLS**
Conduit	**CDRE**

JUNCTION BOX PLATE & CONDUIT FINISH

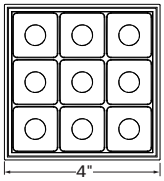
Textured matte white	**FTMW**
Textured matte black	**FTMB**
Custom finish	**CF#**

BOTTOM VIEW

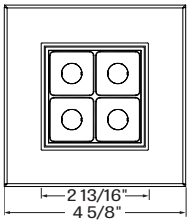
CLUS22 - Direct mount



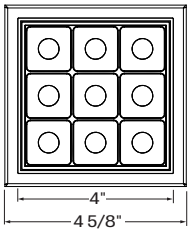
CLUS33 - Direct mount



CLUS22 - Junction box

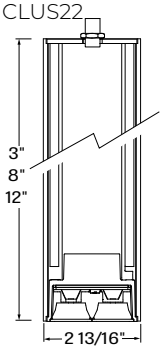


CLUS33 - Junction box

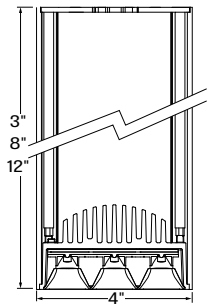


CROSS SECTION

CLUS22



CLUS33

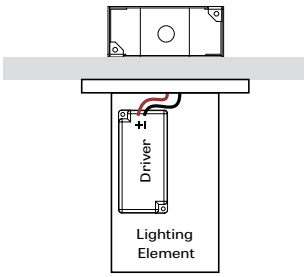


See linear spec sheet for more sizes

DRIVER

INTEGRAL DRIVER 8" & 12" CUBOID HEIGHT ONLY

The integral driver is sized to the lighting unit and is connected directly with Class 2 wiring and quick-splice connectors. The driver is accessible for service through the canopy.



MULTIPLIER

GENERAL LUMEN OUTPUT MULTIPLIER AT 90 CRI

	2700K						3000K						3500K						4000K					
OPTICS	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
CLUS22	811 lm	10.4W	78 lm/W
CLUS33	1743 lm	21.5W	81 lm/W

LUMEN PACKAGE	VOLTAGE	INTEGRAL DRIVER
Use the multiplier tables to calculate the lumen package	**120 -** 120V **277 -** 277V	**D1 -** 1% 0-10V **ELV** [1] **-** ELV 120V **TRI** [1] **-** TRIAC 120V [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).

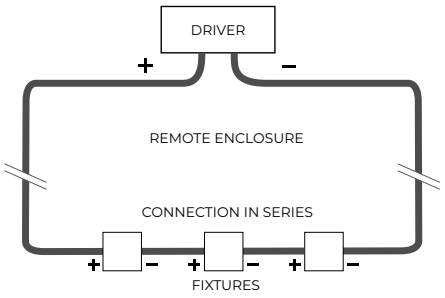
LUMEN PACKAGE [1] (AT 3500K, SOFT 25° BEAM) - REMOTE DRIVER

LUMINAIRE ID	LUMEN PACKAGE [2]			VOLTAGE	REMOTE DRIVER	NUMBER OF LIGHTING UNITS PER DRIVER
CLUS22 **CLUS33**	**LOW** 203 lm 436 lm	**MEDIUM** 507 lm 1089 lm	**HIGH** 811 lm 1743 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 [3] Available with 120V only. [4] On-site commissioning is required.	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.					

[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	CLUS22	CLUS33
D1 - 1% 0-10V	**2 - 6**	**1 - 2**
ELV - ELV 120V	**3**	**1**
TRI - TRIAC 120V	**3**	**1**
DA - DALI	**2 - 6**	**1 - 2**
LDE1 - Lutron Hi-lume 1% Eco	**2 - 4**	**1**



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

Technical Specifications

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).

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		CUBOID 3"		CUBOID 8"		CUBOID 12"	
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg
CLUS22	0.70	0.30	0.38	0.17	0.87	0.40	1.27	0.58
CLUS33	1.10	0.50	0.55	0.25	1.17	0.53	1.67	0.76

CONSTRUCTION

Housing - Die-cast aluminum (0.95" nominal)
Optics - Polycarbonate
Cuboid - Aluminum extrusion
Cover surface - 16 gauge galvanized steel
Extension bar - Galvanized steel

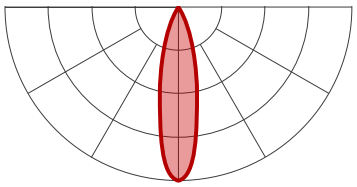
CERTIFICATIONS

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

WARRANTY

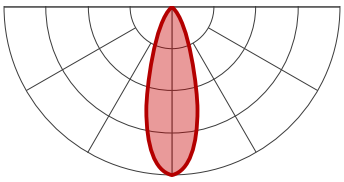
Lumenwerx provides a five-year limited warranty on electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. Lumenwerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated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

SOFT-EDGE DOWNLIGHT



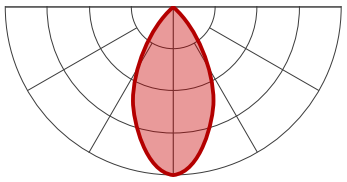
NFL - Narrow flood

Beam angle 25°
Field angle 48°
Spacing criteria 0.4



FLD - Flood

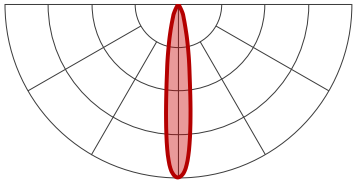
Beam angle 35°
Field angle 67°
Spacing criteria 0.6



WFL - Wide flood

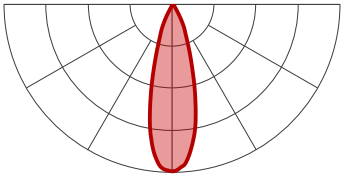
Beam angle 55°
Field angle 104°
Spacing criteria 0.8

SHARP-EDGE DOWNLIGHT



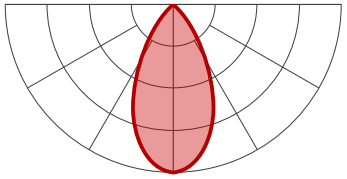
SPT - Spot

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