

Seem® 1 Louver

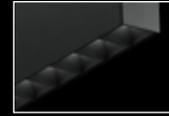
LED DIRECT/INDIRECT WITH ID+ TECHNOLOGY



FOCAL POINT®



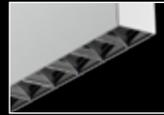
Black Specular Louver



Black Matte Louver



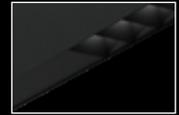
Clear Diffuse Louver



Clear Specular Louver



Matte White Louver

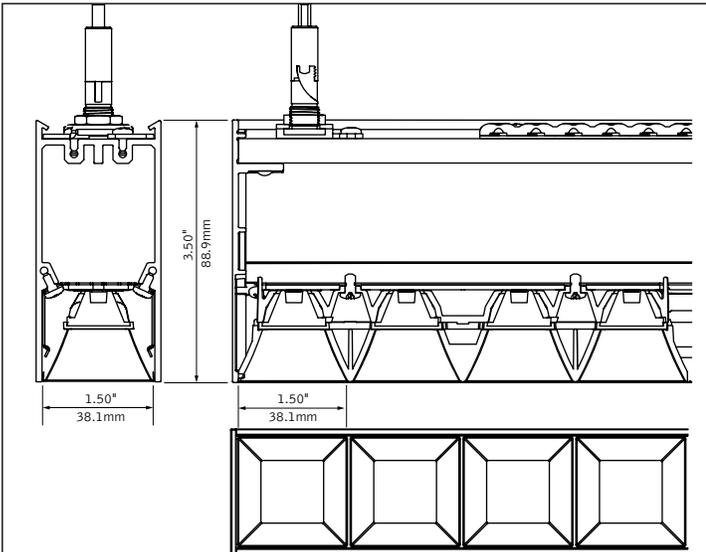


Solid Faceplate + Louver

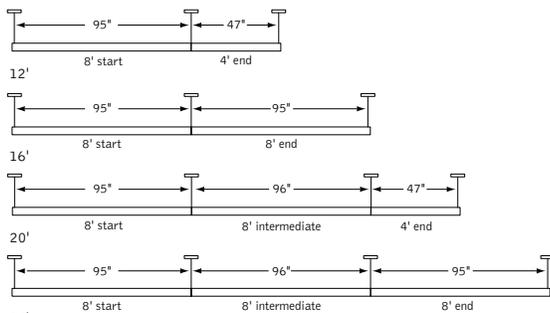


Recessed Companion

DIMENSIONAL DATA



Mounting Information



Consult factory for additional row length information.

FEATURES

Nominal 1.5" narrow extruded aluminum linear direct/indirect LED illumination with louver and high-performance optics.

Frosted acrylic lenses provide uninterrupted illumination, without pixels or shadows.

Deeply regressed louver cells provide 60° cut-off from light source to promote visual comfort.

Diversity of louver finishes to tailor how the light is perceived and experienced, from nearly invisible light sources with a striking transition to warmly illuminated louver cells with a smooth transition.

Choice of output levels and light distributions support multiple applications, from highly focused task lighting to ambient lighting.

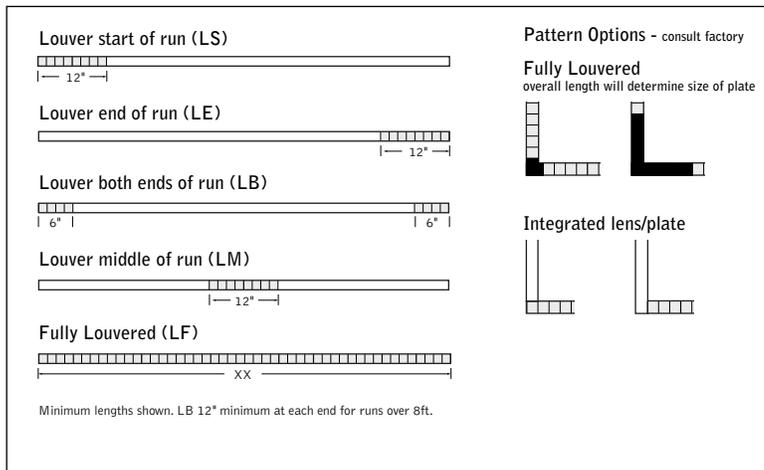
Individual units and continuous runs in 1" lensed or faceplate increments, and 6" louvered increments.

Highly configurable system enables self-service creation of customized products with standard lead times.

fixture:

project:

STANDARD LOUVER CONFIGURATION EXAMPLES



SPECIFICATIONS

LED System

Proprietary linear LED module incorporates premium LEDs on a robust platform to achieve excellent thermal management. LEDs are placed to promote a uniform appearance. Available in 2700K, 3000K, 3500K or 4000K with both 80 and 90 CRI options. LED modules and drivers are replaceable from below. Color accuracy <3 SDCM.

Construction

One piece extruded aluminum housing. Cast aluminum end caps. 8' unit weight: 15lbs.

Optic

60-degree cut-off to louvered light source and its image. Lensed reflectors fabricated of 24 Ga. steel finished in High Reflectance White powder coat. Extruded acrylic lens .085" thick with frosted finish, up to 8' continuous.

Electrical

Luminaires are pre-wired with factory installed branch circuit wiring and over-molded quick connects. Standard 120-277V constant current driver includes 0-10V analog dimming. Power factor > .9.

Emergency

Emergency output - 10 watts for 90 minutes. Louvered maximum mounting height (LC, SC) = 26.4ft, lensed maximum mounting height (BC, FC) = 18ft.

Labels

UL and cUL listed. Suitable for Dry or Damp Locations, indoor use only.

Finish

Polyester powder coat applied over a multi-stage pre-treatment. Canopy and cord white as standard.

Lumen Maintenance

Linear Source

Reported: L70 at >61,000 hours Calculated: L70 at 470,000 hours
 L90 at >61,000 hours L90 at 115,000 hours

Louvered Sources

Reported: L70 at >54,000 hours Calculated: L70 at 138,000 hours
 L90 at 43,000 hours L90 at 43,000 hours

Derived from EPA TM-21 calculator. Based on typical conditions, consult factory for additional data.

Reliability

At Focal Point, our products are designed to stand the test of time. Each luminaire is engineered using superior components, manufactured with the utmost care and rigorously tested. Contact us for reliability data.

Warranty

LED system rated for operation in ambient environments up to 25°C. 5-year limited warranty.

DISTRIBUTIONS

	NFL	FL1	FL2	WFL	LMC
Beam Spread	20°	29°	43°	67°	68°
Spacing Criteria	0.36	0.50	0.70	0.98	1.18

PERFORMANCE CHARTS

See page 4

Focal Point LLC reserves the right to change specifications for product improvement without notification.

STANDARD CONFIGURATION ORDERING

Luminaire Series		FSM1CBS
Seem 1 Direct/Indirect with louver		FSM1CBS
Shielding		
<small>(Combine one code for each distribution. Example: Dust Cover (DC) & Flush lens + Louver (FC) = DCFC)</small>		
Top/Indirect	Dust Cover	DC
	Batwing Optic	BW
Bottom/Direct	Asymmetric Optic	AS
	Flush lens + Louver	FC
	Batwing lens + Louver	BC
	Solid faceplate + Louver	SC
Louver only		LC
Louver Configuration		
<small>(Specify total length of louver in inches for run length. Example: 36" of Louver at start of run = LS36)</small>		
Louver start or end of run (6" increments, 12" min.)		LS_ or LE_
Louver both ends of run (12" increments, split equally) <small>(Runs over 8ft must contain min. 24" of louver)</small>		LB_
Louver middle of run <small>(12" Louver increments. Min 24" of lens or faceplate, split equally.)</small>		LM_
Fully Louvered (xxLC shieldings only, length matches run length)		LF

LUMEN OUTPUT OPTIONS <small>(Specify a value for each distribution. Example: 750UP-65DN-1000DL)</small>	Lumen Output	
	250 Lumens per foot <small>(Consult factory for available options)</small>	250
	375 Lumens per foot	375
	500 Lumens per foot	500
	625 Lumens per foot	625
	750 Lumens per foot	750
	875 Lumens per foot	875
	1000 Lumens per foot	1000
1125 Lumens per foot	1125	
1250 Lumens per foot	1250	

Indirect Distribution

__UP

Direct Lensed Distribution

__DN

(625 lumens per foot max. Use "0DN" for xxSC & xxLC shielding options. Consult Factory for LH1 & D11 with xxBC & xxFC for 375 & 500 lm/ft.)

Direct Louvered Distribution

__DL

(1000 lumens per foot max.)

Color Temperature

2700K, 80CRI or 90 CRI	27K or 927K
3000K, 80CRI or 90 CRI	30K or 930K
3500K, 80CRI or 90 CRI	35K or 935K
4000K, 80CRI or 90 CRI	40K or 940K

Circuit

Single Circuit	1C
Dual Circuit	2C

(Circuit 1 = Indirect, Circuit 2 = All Direct sources.)

Three Circuit (xxFC & xxBC shieldings only)

3C

Voltage

120/277 UNV Volt	UNV
347 Volt (LD1 driver only)	347

Control System & Dimming Level

0-10V - 10% Dimming	LD1
0-10V - 1% Dimming	L11
Lutron Hi-Lume EcoSystem (LDE1) - 1% Dimming	LH1
DALI 1% Dimming	D11

Mounting

24" Cable Suspension	C24_
48" Cable Suspension	C48_
96" Cable Suspension	C96_

(Specify canopy color White (WH), Black (BK) or Titanium Silver (TS). Example: C24WH.) (Specify one of the following in place of "C" J - for 2" canopies at non-feed locations. CS - for sloped ceiling applications.)

Distribution

Narrow Flood	NFL
Flood 1	FL1
Flood 2	FL2
Wide Flood	WFL
Louvered Mixing Chamber	LMC

Factory Options

Black Cord	BKCD
Emergency Circuit	_EC
Emergency Battery Pack <small>(5' min. length with xxLC shieldings. Consult factory for integrated options.)</small>	_EM

Louder Finish

Matte Black	BK
Black Specular	BS
Clear Diffuse	CD
Clear Specular	CS
Matte White	WH

Housing & Faceplate Finish

Matte Black	BK
Titanium Silver	TS
Matte White	WH

Luminaire Length

Total luminaire/row length _ft_in
(12" increments; 6" increments for LF. 4' minimum run length.)

fixture:

project:

TAILORED LOUVER CONFIGURATION EXAMPLES

Alternating louver & lens/faceplate starting with louver (ACS)

examples:

12ft run = 24" louver sections, 36" lens/faceplate sections (ACS24-3S, 12ft run)

12ft run = 24" louver sections, 16" lens/faceplate sections (ACS24-4S, 12ft run)

10ft run = 24" louver sections, 24" lens/faceplate sections (ACS24-3S, 10ft run)

12ft run = 30" louver sections, 27" lens/faceplate sections (ACS30-3S, 12ft run)

10ft run = 18" louver sections, 16" lens/faceplate sections (ACS18-4S, 10ft run)

Alternating louver & lens/faceplate starting with lens/faceplate (AFS)

examples:

12ft run = 24" louver sections, 32" lens/faceplate sections (AFS24-2S, 12ft run)

12ft run = 24" louver sections, 18" lens/faceplate sections (AFS24-3S, 12ft run)

10ft run = 24" louver sections, 24" lens/faceplate sections (AFS24-2S, 10ft run)

12ft run = 30" louver sections, 28" lens/faceplate sections (AFS30-2S, 12ft run)

10ft run = 18" louver sections, 16.5" lens/faceplate sections (AFS18-3S, 10ft run)

SPECIFICATIONS

See page 2

DISTRIBUTIONS

	NFL	FL1	FL2	WFL	LMC
Beam Spread	20°	29°	43°	67°	68°
Spacing Criteria	0.36	0.50	0.70	0.98	1.18

PERFORMANCE CHARTS

See page 4

TAILORED CONFIGURATION ORDERING

Luminaire Series **FSM1CBS**

Seem 1 Direct/Indirect with louver FSM1CBS

Shielding
(Combine one code for each distribution.
Example: Dust Cover (DC) & Flush lens + Louver (FC) = DCFC)

Top/Indirect	Dust Cover	DC
	Batwing Optic	BW
	Asymmetric Optic	AS
Bottom/Direct	Flush lens + Louver	FC
	Batwing lens + Louver	BC
	Solid faceplate + Louver	SC

Louver Configuration
(Specify length of each louver segment in 6" increments, 12" minimum*, and the total number of louver segments in the run.
Example: 24" louver segments, 4 segments total = ACS24-4S
*Consult factory for 6" segment availability.)

Alternating louver & lens/faceplate starting with louver (Min. 3 segments per run.) ACS__S

Alternating louver & lens/faceplate starting with lens/faceplate (Min. 2 segments per run.) AFS__S

LUMEN OUTPUT OPTIONS
(Specify a value for each distribution.
Example: 750UP-625DN-1000DL)

(Consult factory for available lumen outputs based on specified Louver Configuration)

250 Lumens per foot	250
375 Lumens per foot	375
500 Lumens per foot	500
625 Lumens per foot	625
750 Lumens per foot	750
875 Lumens per foot	875
1000 Lumens per foot	1000
1125 Lumens per foot	1125
1250 Lumens per foot	1250

Indirect Distribution ___UP

Direct Lensed Distribution ___DN
(625 lumens per foot max. Use "0DN" for xxSC shielding options.
Consult Factory for LH1 & D11 with xxBC & xxFC for 375 & 500 lm/ft.)

Direct Louvered Distribution ___DL
(1000 lumens per foot max.)

Color Temperature

2700K, 80CRI or 90 CRI	27K or 927K
3000K, 80CRI or 90 CRI	30K or 930K
3500K, 80CRI or 90 CRI	35K or 935K
4000K, 80CRI or 90 CRI	40K or 940K

Circuit

Single Circuit	1C
Dual Circuit	2C
(Circuit 1 = Indirect, Circuit 2 = All Direct sources.)	
Three Circuit (xxFC & xxBC shieldings only)	3C

Voltage

120/277 UNV Volt	UNV
347 Volt (LD1 driver only)	347

Control System & Dimming Level

0-10V - 10% Dimming	LD1
0-10V - 1% Dimming	L11
Lutron Hi-Lume EcoSystem (LDE1) - 1% Dimming	LH1
DALI 1% Dimming	D11

Mounting

24" Cable Suspension	C24__
48" Cable Suspension	C48__
96" Cable Suspension	C96__
(Specify canopy color White (WH), Black (BK) or Titanium Silver (TS). Example: C24WH) (Specify one of the following in place of "C" J - for 2" canopies at non-feed locations. CS - for sloped ceiling applications.)	

Distribution

Narrow Flood	NFL
Flood 1	FL1
Flood 2	FL2
Wide Flood	WFL
Louvered Mixing Chamber	LMC

Factory Options

Black Cord	BKCD
Emergency Circuit	_EC
Emergency Battery Pack	_EM
(Consult factory for available options.)	

Louver Finish

Matte Black	BK
Black Specular	BS
Clear Diffuse	CD
Clear Specular	CS
Matte White	WH

Housing & Faceplate Finish

Matte Black	BK
Titanium Silver	TS
Matte White	WH

Luminaire Length

Total luminaire/row length ___ft ___in
(12" increments; 6" increments for LF. 4 minimum run length.)

4' PERFORMANCE CHART

Direct Distribution	Indirect Distribution	Distribution % (Direct/Indirect)	Total Lumen Output	Tested System Watts	Lumens per Watt (LPW)					
					ASFC 	ASBC 	BWFC 	BWBC 	DCFC 	DCBC 
250DN	250UP	50/50	2000	18.2	108	111	109	112	110	113
	375UP	40/60	2500	21.5	114	116	114	117	116	119
	500UP	33/67	3000	24.8	118	121	119	121	121	123
	625UP	29/71	3500	28.2	122	124	122	124	124	126
	750UP	25/75	4000	31.8	124	126	125	126	127	128
	875UP	22/78	4500	36.1	122	124	123	125	125	127
	1000UP	20/80	5000	39.6	123	125	124	125	126	128
	1125UP	18/82	5500	43.3	124	125	125	126	127	129
	1250UP	17/83	6000	46.8	125	126	126	127	128	129
	375DN	250UP	60/40	2500	22.4	110	114	110	114	112
375UP		50/50	3000	25.8	114	118	115	118	116	120
500UP		43/57	3500	29.1	118	121	119	122	120	123
625UP		38/62	4000	32.5	121	124	122	124	123	126
750UP		33/67	4500	36.1	123	125	124	126	126	128
875UP		30/70	5000	40.4	122	124	122	124	124	127
1000UP		27/73	5500	43.9	123	125	123	125	125	127
1125UP		25/75	6000	47.6	123	125	124	126	126	128
1250UP		23/77	6500	51.1	124	126	125	127	127	129
500DN		250UP	67/33	3000	26.8	111	115	111	115	112
	375UP	57/43	3500	30.2	114	118	115	118	116	120
	500UP	50/50	4000	33.5	118	121	118	121	119	123
	625UP	44/56	4500	36.9	120	123	121	124	122	125
	750UP	40/60	5000	40.4	122	125	123	125	124	127
	875UP	36/64	5500	44.8	121	123	122	124	123	126
	1000UP	33/67	6000	48.3	122	124	122	125	124	127
	1125UP	31/69	6500	52.0	123	125	123	125	125	127
	1250UP	29/71	9000	55.5	123	125	124	126	126	128
	625DN	250UP	71/29	3500	32.6	107	112	108	112	109
375UP		63/37	4000	35.9	111	115	111	115	112	116
500UP		56/44	4500	39.3	114	118	114	118	116	119
625UP		50/50	5000	42.6	116	120	117	120	118	122
750UP		45/55	5500	46.2	118	121	119	122	120	123
875UP		42/58	6000	50.5	118	120	118	121	120	123
1000UP		38/62	6500	54.1	119	121	119	122	121	124
1125UP		36/64	7000	57.8	120	122	120	123	122	124
1250UP		33/67	7500	61.2	120	123	121	123	123	125

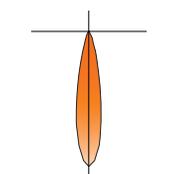
*Based on 3500K, 4' lengths. Lumen Multipliers: See next page. Lumen output may vary +/- 5%. Actual wattage may vary +/- 5%.

4' PERFORMANCE CHART - LOUVERED DISTRIBUTIONS

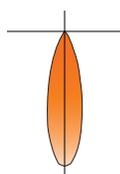
Distribution	Lumens per Foot	Tested System Watts	LPW
WFL	250	11.0	92
	375	14.7	101
	500	19.3	106
	625	24.3	105
	750	28.3	107
	875	32.6	107
	1000	37.0	108

Based on 4' luminaire, 3500K, 80 CRI, Matte Black baffle. Lumen output may vary +/- 5%. Actual wattage may vary +/- 5%.

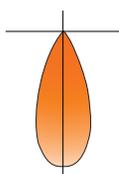
PERFORMANCE CURVES



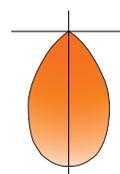
Narrow Flood (NFL)



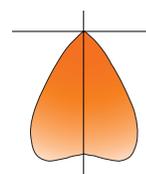
Flood 1 (FL1)



Flood 2 (FL2)



Wide Flood (WFL)



Louvered Mixing Chamber (LMC)

SEEM 1 LOUVER LUMEN MULTIPLIER TABLE

Lens Color Temperature & CRI

Color Temperature	Multiplier
2700K, 80+ CRI [27K]	0.96
2700K, 90+ CRI [927K]	0.79
3000K, 80+ CRI [30K]	1.00
3000K, 90+ CRI [930K]	0.82
3500K, 80+ CRI [35K]	1.00
3500K, 90+ CRI [935K]	0.84
4000K, 80+ CRI [40K]	1.01
4000K, 90+ CRI [940K]	0.86

Louvers Color Temperature & CRI

Color Temperature	Multiplier
2700K, 80+ CRI [27K]	0.95
2700K, 90+ CRI [927K]	0.80
3000K, 80+ CRI [30K]	0.97
3000K, 90+ CRI [930K]	0.83
3500K, 80+ CRI [35K]	1.00
3500K, 90+ CRI [935K]	0.85
4000K, 80+ CRI [40K]	1.03
4000K, 90+ CRI [940K]	0.87

Louvers Distribution

Distribution	Multiplier
Narrow Flood [NFL]	1.34
Flood 1 [FL1]	1.14
Flood 2 [FL2]	1.21
Wide Flood [WFL]	1.00
Louvered Mixing Chamber [LMC]	0.97

Louvers Finish

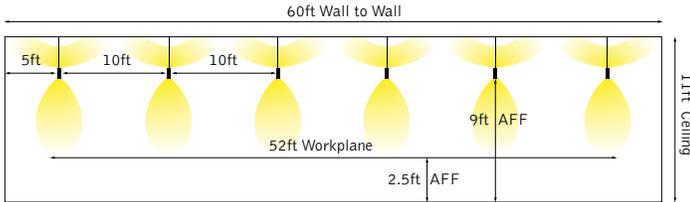
Color	Multiplier
Matte Black [BK]	1.00
Black Specular [BS]	1.00
Clear Diffuse [CD]	1.07
Clear Specular [CS]	1.10
Matte White [WH]	1.11

How To Use Lumen Multipliers

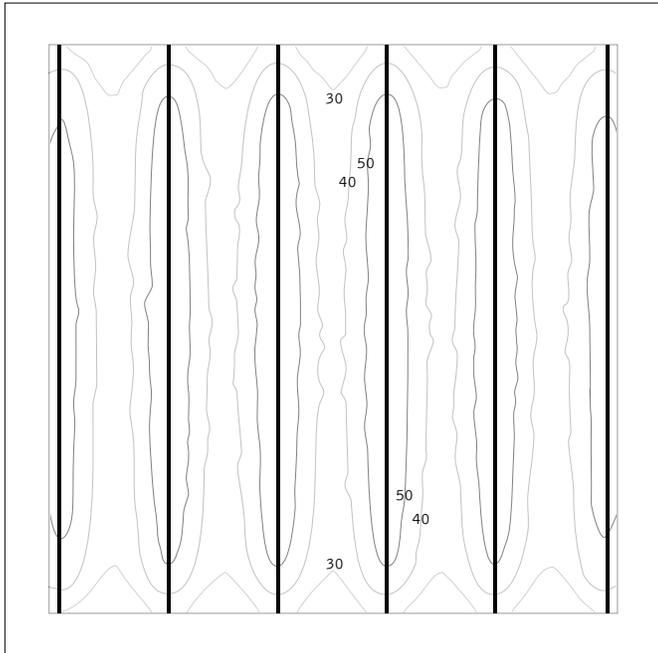
Formula: (Lumen Output Value) x (Color Temperature & CRI) x (Distribution) x (Finish)

Louvers Example: FSM1CBS-1000DL-930K-NFL-BS
 (1000) x (0.83) x (1.34) x (1.00) ≈ 1112.2 lm (estimated delivered lumens)

SEEM 1 LOUVER APPLICATION EXAMPLE - BATWING INDIRECT / FULLY LOUVERED



Workplane Illuminance



Average Illuminance = 41 fc

Lighting Power Density (LPD) = 0.49

Seem 1 Louver with batwing indirect and fully louvered direct illumination is a powerful and efficacious solution for open working environments. Workplanes benefit from 41 footcandles or more and superior uniformity with a lighting power density of less than 0.5 while maintaining luminaire on-center spacing of 10 feet or greater.

Calculation Details

Room Area:	60ft x 60ft
Calculation Area:	52ft x 52ft
Ceiling Height:	11ft
Luminaire Height:	9ft AFF
Luminaire Spacing:	10ft OCS
Workplane Height:	2.5ft AFF
Reflectances:	80/50/20
Light Loss Factor:	0.9

Luminaire Details

Shielding:	Batwing Indirect Fully Louvered, Wide Flood, Direct
Lumens per foot:	250 Indirect 250 Direct
Louvers finish:	Matte Black

Installation		Lumens/ft (UP/DN)	Louvers Distribution	LPD (Watts/ft²)	Workplane		Ceiling	
Ceiling Height	On-center Spacing				Average Footcandles	Uniformity (avg. to min.)	Average Footcandles	Uniformity (avg. to min.)
11ft	10ft	250/250	WFL	0.49	43.1	1.99	29.1	2.69
			LMC		42.1	2.11	28.9	2.69
12.5ft	10ft		WFL		41.9	1.79	29.0	2.64
			LMC		41.0	1.77	28.8	2.65
12.5ft	12ft	375/250	WFL	0.48	41.9	1.88	35.5	3.27
			LMC		41.0	1.96	35.3	3.29