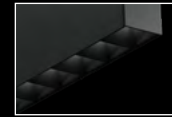


Seem® 1 Louver

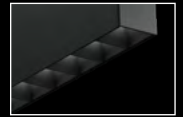
LED DIRECT/INDIRECT WITH ID+ TECHNOLOGY



The Naturals collection - Walnut shown



Black Specular Louver



Black Matte Louver



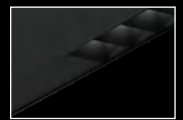
Clear Diffuse Louver



Clear Specular Louver

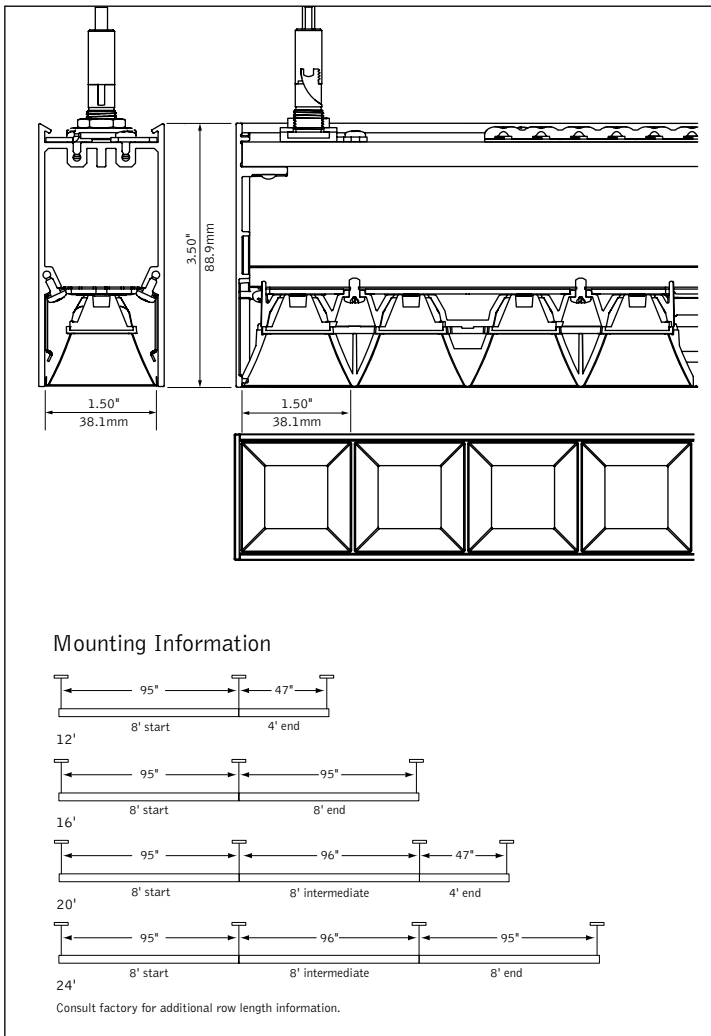


Matte White Louver



Solid Faceplate + Louver

DIMENSIONAL DATA



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.

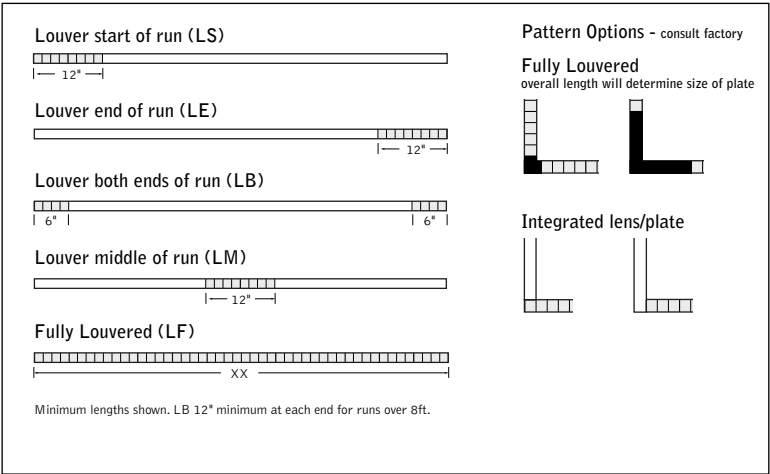
Highly configurable system enables self-service creation of customized products with standard lead times.

Available with The Naturals, a series of finishes that exude biophilic beauty.

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. The Naturals: 100% low VOC vinyl.

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	<u>FSM1CBS</u>
Seem 1 Direct/Indirect with louver			
Shielding			
(Combine one code for each distribution. Example: Dust Cover (DC) & Flush lens + Louver (FC) = DCFCL)			
Top/Indirect	Dust Cover	DC	
	Batwing Optic	BW	
	Asymmetric Optic	AS	
	Flush lens + Louver	FC	
Bottom/Direct	Batwing lens + Louver	BC	
	Solid faceplate + Louver	SC	
	Louver only	LC	
Louver Configuration			
(Specify total length of louver in inches for run length. Example: 36" of Louver at start of run = LS36)			
Louver start or end of run (6" increments, 12" min.)		LS_ or LE_	
Louver both ends of run (12" increments, split equally) (Runs over 8ft must contain min. 24" of louver)		LB_	
Louver middle of run (12" Louver increments. Min 24" of lens or faceplate, split equally.)		LM_	
Fully Louvered (xxLC shieldings only, length matches run length)		LF	
Lumen Output			
250 Lumens per foot (Consult factory for available options)		250	
LUMEN OUTPUT OPTIONS (specify a value for each distribution. Example: 750UP-625DN-1000DL)	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 (625 lumens per foot max. Use 100N for xxLC & xxLC shielding options. Consult Factory for LH1 & D11 with xxBC & xxFC for 375 & 500 lm/ft.)	__DN	
Direct Louvered Distribution (1000 lumens per foot max.)		__DL	
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, see finishes page for options. Example: White = 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 (5' min. length with xxLC shieldings. Consult factory for integrated options.)		_EM	
Louver Finish			
Matte Black		BK	
Black Specular		BS	
Clear Diffuse		CD	
Clear Specular		CS	
Matte White		WH	
Housing & Faceplate Finish			
(See finishes page for The Naturals options)			
Matte Black		BK	
Titanium Silver		TS	
Matte White		WH	
Luminaire Length			
Total luminaire/row length (12" increments; 6" increments for LF, 4" minimum run length.)		_ft _in	

TAILORED LOUVER CONFIGURATION EXAMPLES

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

12" 12" 12"

examples:

24" 24" 24"

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

24" 24" 24"

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

24" 24" 24"

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

30" 30" 30"

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

18" 18" 18"

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

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

12" 12"

examples:

24" 24" 24"

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

24" 24" 24"

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

24" 24"

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

30" 30" 30"

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

18" 18" 18"

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	FSM1CBS
Seem 1 Direct/Indirect with louver			
Top/Indirect	Shielding		
	(Combine one code for each distribution. Example: Dust Cover (DC) & Flush lens + Louver (FC) = DCFC)		
	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			
(Consult factory for available lumen outputs based on specified Louver Configuration)			
LUMEN OUTPUT OPTIONS (specify a value for each distribution. Example: 750UP-625DN-1000DL)	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, see finishes page for options. Example: White = 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			
(See finishes page for The Naturals options)			
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

					Lumens per Watt (LPW)					
Direct Distribution	Indirect Distribution	Distribution % (Direct/Indirect)	Total Lumen Output	Tested System Watts	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	115
	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	116
	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	113
	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

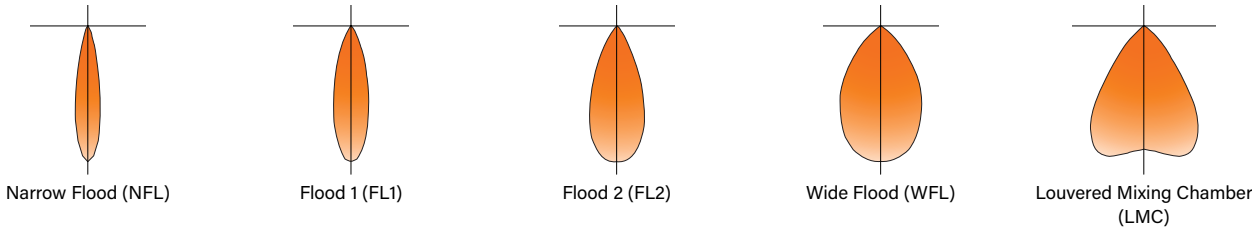
*Based on 3500K, 4' lengths. Lumen Multipliers: See next page. Lumen output may vary +/- 5%. Actual wattage may vary +/- 5%.

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



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

Louver 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

Louver 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

Louver Finish

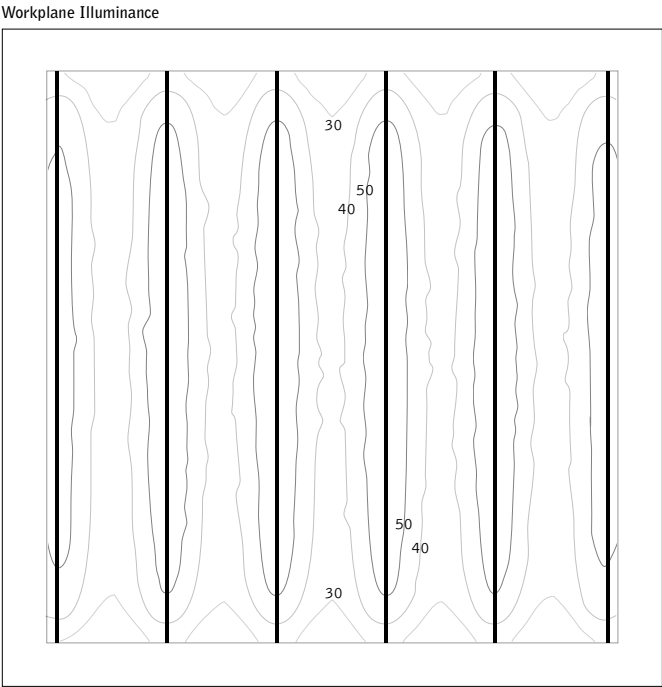
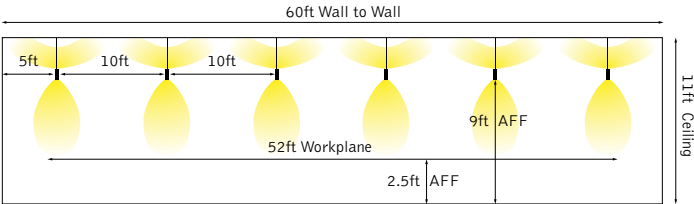
Color	Multiplier
Matte Black [BK]	1.00
Black Specular [BS]	1.00
Clear Diffuse [CD]	1.07
Clear Specular [CS]	1.10
Matte White [WH]	1.11

How To Use Lumen Multipliers

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

Louver 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



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.

Calcuation Details

Room Area:	60ft x 60ft
Calculation Area:	52ft x 52ft
Ceiling Height:	11ft
Luminaire Height:	9ft AFF
Luminiare 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
Louver finish:	Matte Black

Installation		Lumens/ft (UP/DN)	Louver 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			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

Finishes



STANDARD FINISHES



THE NATURALS (25% SCALE)

