

Seem® 1 Louver

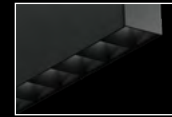
LED DIRECT/INDIRECT WITH ID+ TECHNOLOGY



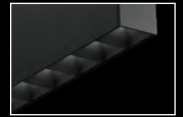
FOCAL POINT®



The Naturals collection - Walnut shown



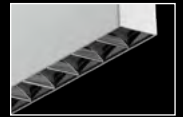
Black Specular Louver



Black Matte Louver



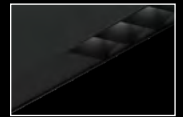
Clear Diffuse Louver



Clear Specular Louver

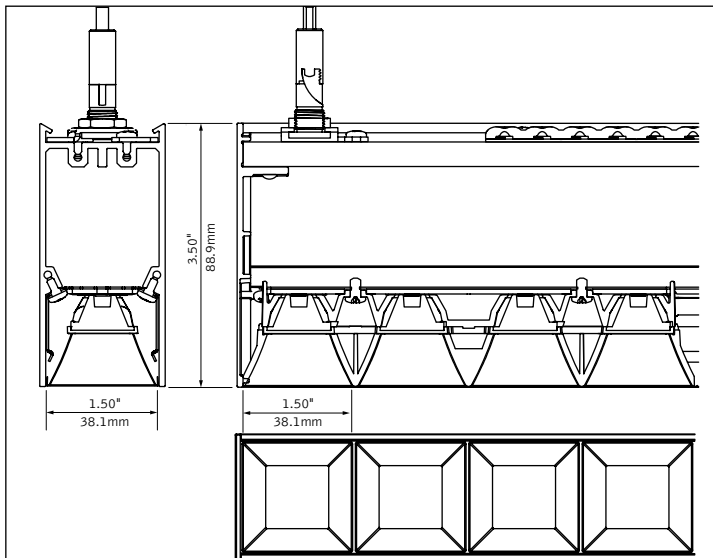


Matte White Louver

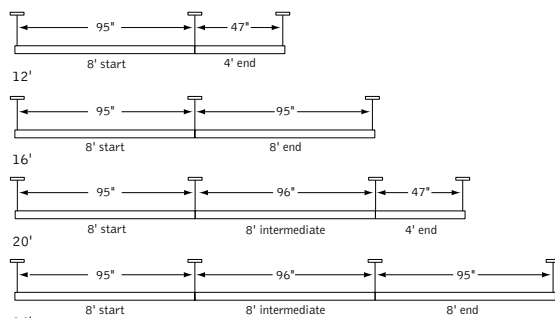


Solid Faceplate + Louver

DIMENSIONAL DATA



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.

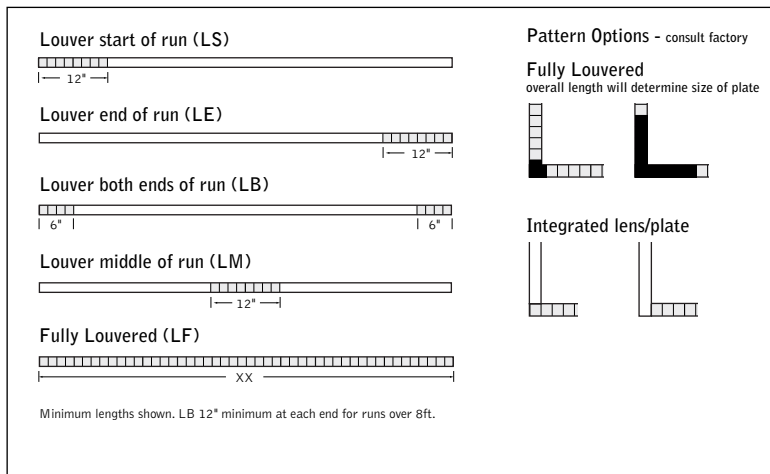
Highly configurable system enables self-service creation of customized products with standard lead times.

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** **FSM1CBS**

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
Bottom/Direct	Asymmetric Optic	AS
	Flush lens + Louver	FC
	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 **250**
 (Consult factory for available options)

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 0DN for xxBC & 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, 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**
 (5' min. length with xxLC shieldings.
 Consult factory for integrated 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.)

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 **FSM1CBS**

Seem 1 Direct/Indirect with louver

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

LUMEN OUTPUT OPTIONS (Specify a value for each distribution. Example: 750UP-625DN-1000DL)	LUMEN OUTPUT OPTIONS	
	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)	Distribution % (Direct/ Indirect)	Total Delivered Lumens	Tested System Watts	ASFC		ASBC		BWFC		BWBC		DCFC		DCBC	
						Tested System Watts	ASFC	Tested System Watts	ASBC	Tested System Watts	BWFC	Tested System Watts	BWBC	Tested System Watts	DCFC	Tested System Watts	DCBC
250DN	250	50%	50/50	2000	17	120	16	123	17	121	16	124	16	122	16	125	
	375	40%	40/60	2500	19	129	19	132	19	130	19	133	19	131	19	134	
	500	33%	33/67	3000	22	134	22	136	22	135	22	137	22	136	22	138	
	625	29%	29/71	3500	26	136	25	139	25	138	25	140	25	139	25	141	
	800	24%	24/76	4200	30	139	30	141	30	140	30	142	30	141	29	143	
	1000	20%	20/80	5000	37	136	36	137	36	137	36	139	36	139	36	140	
	1125	18%	18/82	5500	41	136	40	137	40	137	40	138	40	139	39	140	
	1250	17%	17/83	6000	44	135	44	136	44	137	43	138	43	139	43	140	
375DN	250	60%	60/40	2500	20	127	19	131	20	127	19	132	20	128	19	132	
	375	50%	50/50	3000	22	134	22	138	22	135	22	138	22	135	22	139	
	500	43%	43/57	3500	26	137	25	141	25	138	25	142	25	139	25	143	
	625	38%	38/62	4000	29	139	28	142	29	140	28	143	28	141	28	145	
	800	32%	32/68	4700	33	141	33	144	33	142	32	145	33	143	32	146	
	1000	27%	27/73	5500	40	138	39	140	40	139	39	141	39	141	39	143	
	1125	25%	25/75	6000	44	137	43	139	43	139	43	141	43	140	42	143	
	1250	23%	23/77	6500	48	137	47	139	47	138	46	140	46	140	46	142	
500DN	250	67%	67/33	3000	23	129	22	134	22	134	22	134	23	130	22	135	
	375	57%	57/43	3500	26	135	25	139	23	129	25	140	26	136	25	141	
	500	50%	50/50	4000	29	138	28	142	26	135	28	142	29	139	28	143	
	625	44%	44/56	4500	32	139	31	143	29	138	31	144	32	141	31	145	
	800	38%	38/62	5200	37	141	36	144	32	140	36	145	36	143	36	146	
	1000	33%	33/67	6000	43	138	43	141	37	142	42	142	43	141	42	143	
	1125	31%	31/69	6500	47	138	46	140	43	139	46	141	46	140	45	143	
	1250	29%	29/71	7000	51	137	50	139	47	139	50	141	50	140	49	142	
625DN	250	71%	71/29	3500	27	130	26	135	27	130	26	136	27	131	26	136	
	375	63%	63/37	4000	30	135	29	140	30	135	28	140	29	136	28	141	
	500	56%	56/44	4500	33	137	32	142	33	138	32	143	32	139	31	143	
	625	50%	50/50	5000	36	139	35	143	36	140	35	144	36	141	34	145	
	800	44%	44/56	5700	41	140	40	144	40	141	39	145	40	143	39	146	
	1000	38%	38/62	6500	47	138	46	141	47	139	46	142	46	140	45	143	
	1125	36%	36/64	7000	51	138	50	141	50	139	49	142	50	140	49	143	
	1250	33%	33/67	7500	55	137	54	140	54	138	53	141	54	140	53	143	

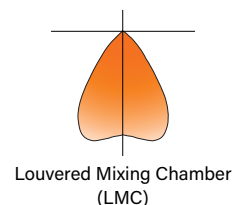
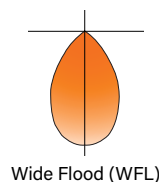
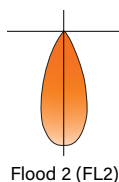
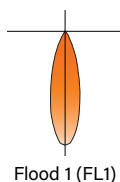
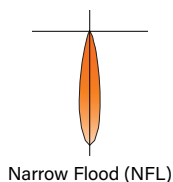
*Based on 3500K, 4' lengths. Lumen Multipliers: See next page. Lumen output may vary +/- 5%. Actual wattage may vary +/- 5%.

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

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

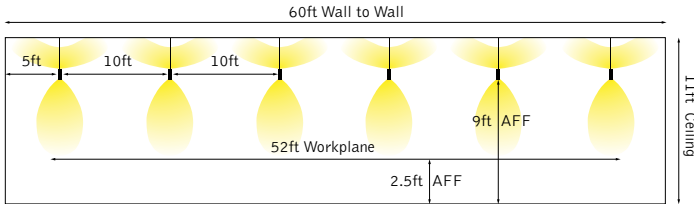
Color	Multiplier
Matte Black [BK]	1.00
Black Specular [BS]	1.00
Clear Diffuse [CD]	1.07
Clear Specular [CS]	1.10
Matte White [WH]	1.11

How To Use Lumen Multipliers

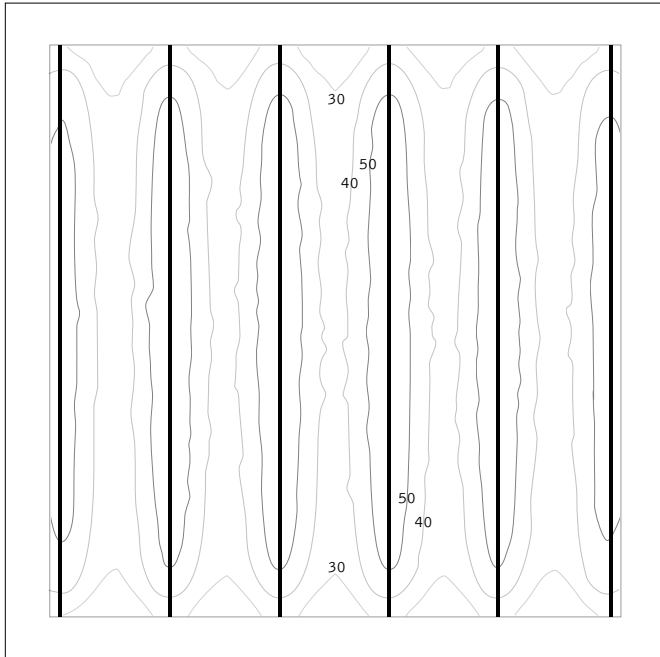
Formula: (Lumen Output Value) x (Color Temperature & CRI) x (Distribution) x (Finish)

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

Finishes

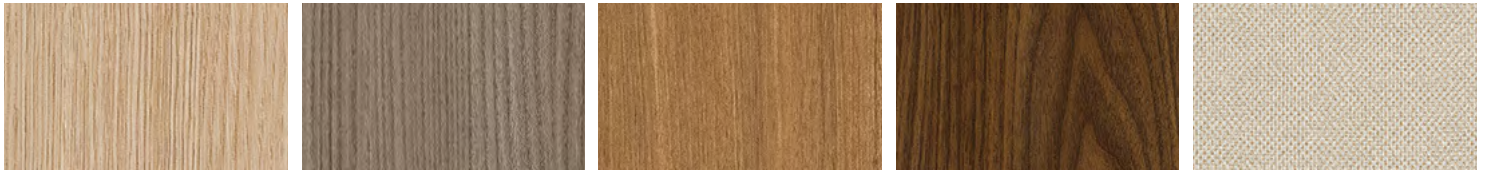


STANDARD FINISHES



WHITE WH BLACK BK TITANIUM SILVER TS

THE NATURALS (25% SCALE)



LIGHT OAK LOK GRAY ELM GRE CHESTNUT CHT WALNUT WLT WOVEN LINEN WLN