

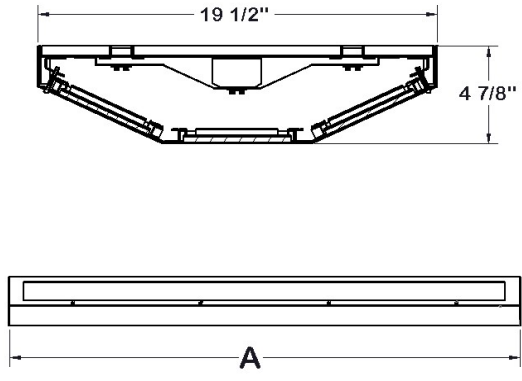
PROJECT:

NOTES:

ORDERING INFORMATION:

EXAMPLE PUFA - H - 4F - L - 40 - 9 - 40 - H5 - M4 - MV - EM - D1
 SERIES SECURITY LEVEL NOM. LENGT SOURCE LUMENS CRI KELVINS DIFFUSERS LENS VOLTAGE OPTIONS DRIVER

SHOP DRAWINGS



ORDERING INFORMATION

SERIES

PUFA

KELVIN

30	3000K
35	3500K
40	4000K
50	5000K
TW	Tunable White

SECURITY LEVEL

X	Extra Heay (12 gauge)
H	Heavy (14 gauge)
M	Medium (16 gauge)
L	Light (18 gauge)

DIFFUSERS

A1	Acrylic K12 (1/8")
L1	White Opal Underlay
H5	Frosted Acrylic (1/8")

NOMINAL LENGTH

2F	23"
4F	45"

SECURITY LENS (NOMINAL THICKNESS)

M1	Clear Polycarbonate (1/8")
M3	Clear Polycarbonate (3/16")
M4	Clear Polycarbonate (1/4")
M5	Clear Polycarbonate (3/8")
M6	Clear Polycarbonate (1/2")

LUMENS

Lumen Package*	Nom. Lumens	Wattage
2F		
30	3,000	
40	4,000	
4F		
40	4,000	
60	6,000	
80	8,000	

VOLTAGE

MV	120-277V
347	347V

OPTIONS

EM	Emergency Power Pack
AM	Anti-Microbial Paint

CRI

BLANK	80 CRI
9	90 CRI

DRIVERS

ND	Non-dimming applications
D	0-10V dimming
D1	0-10V dimming to 1%
DA	DALI driver

FEATURES

- > Specification-grade LED luminaire for anti-vandal and maximum security applications
- > Robust design with concealed hinges, tamper-resistant fasteners and contraband trapping backplate
- > Security lens (multiple thicknesses available) secured with double frame
- > Double frame secured internally with multiple screws
- > Concealed piano hinge welded to door frame and fastened to backplate
- > Welded housing for additional strength
- > Minimum 80 CRI; color range 3000K - 5000K available
- > Multiple dimming protocols available

APPLICATIONS

- > Correctional facilities
- > Corridors
- > Locker rooms
- > Public areas
- > Stairwells
- > Rough service applications

*Other lumen packages available

LED

FIXTURE PERFORMANCE DATA

SPECIFICATIONS

Housing – Precision die-formed 12, 14, 16, 18-gauge C.R.S. with continuously welded end plates

Door Frame – Single piece precision die formed frame with seam welded corners and tamper-resistant screws secure door frame to housing

Shielding – Variety of robust polycarbonate lenses available. Secured with double frame which is fastened with multiple screws.

Hinge – Concealed piano style hinge with .500" knuckle and .125" pin welded to doorframe

Finish – Baked white enamel powder finish applied post production on all surfaces for smooth edges and safe handling

Electrical – High quality mid-power LED boards. L70 >72,000 hours reported / 129,200 hours calculated at maximum allowable output current. L85 >50,000 hours.

Mounting – Suspended or surface

Listings –

■ cUL certified as luminaire suitable for dry or damp locations.

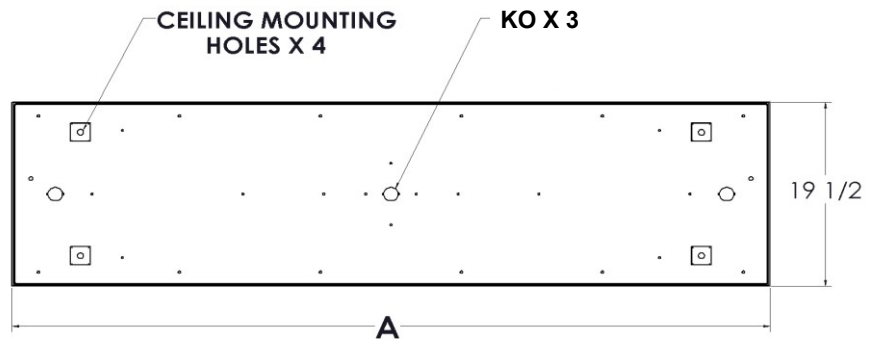
Warranty – 5-year limited warranty

LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)
2F			
30	3,023	28	108
40	4,038	37	109
4F			
40	4,043	38	106
60	6,133	57	107
80	8,086	76	106

*Results based on 4000K, 80 CRI, Diffuser A1, Lens M1

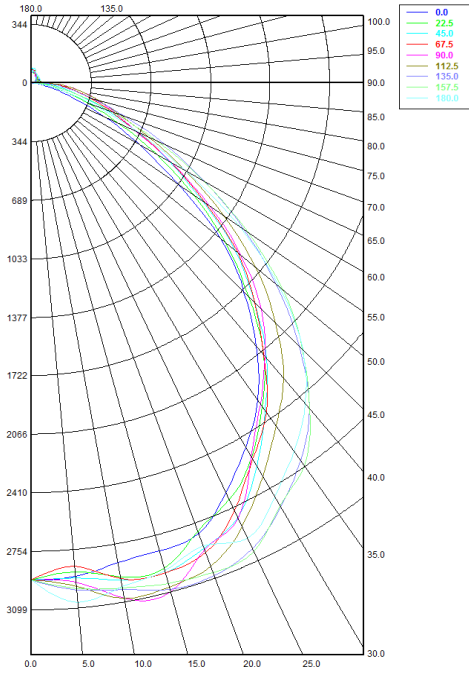
MULTIPLIER TABLE	
COLOR TEMPERATURE	
CCT/CRI	CONVERSION FACTOR
3000K / 80 CRI	0.95
3500K / 80 CRI	0.97
4000K / 80 CRI	1
5000K / 80 CRI	1.03

FIXTURE DETAILS



PHOTOMETRY

PUFA-M-4F-60-40-A1-M1-MV Total Luminaire Output: 6,133 lumens; 57 Watts



Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	135.00°	157.50°	180.00°
0.00°	2,293.32	2,293.32	2,293.32	2,293.32	2,293.32	2,293.32	2,293.32	2,293.32	2,293.32
5.00°	2,171.35	2,240.36	2,270.76	2,255.56	2,297.28	2,269.90	2,320.75	2,276.33	2,399.38
10.00°	2,159.84	2,215.98	2,214.06	2,206.02	2,302.76	2,325.98	2,319.55	2,258.11	2,294.09
15.00°	2,139.65	2,182.08	2,234.16	2,284.21	2,261.70	2,294.31	2,330.67	2,307.62	2,305.10
20.00°	2,116.01	2,112.24	2,218.35	2,206.44	2,214.29	2,266.47	2,342.98	2,312.05	2,327.47
25.00°	1,975.37	2,052.00	2,110.34	2,110.44	2,144.08	2,176.88	2,282.33	2,288.08	2,272.03
30.00°	1,839.85	1,923.14	1,949.49	1,951.57	1,957.80	2,019.96	2,183.59	2,216.39	2,126.47
35.00°	1,693.94	1,765.21	1,793.36	1,787.90	1,765.69	1,883.02	2,043.93	2,084.91	2,044.53
40.00°	1,519.84	1,538.66	1,597.65	1,607.96	1,601.56	1,691.06	1,843.61	1,882.98	1,828.44
45.00°	1,324.11	1,352.36	1,396.83	1,398.56	1,438.46	1,503.67	1,650.58	1,686.90	1,673.45
50.00°	1,074.34	1,113.27	1,174.85	1,186.27	1,217.19	1,278.76	1,380.91	1,439.53	1,402.94
55.00°	778.01	853.98	911.49	937.33	952.65	1,029.35	1,143.43	1,172.23	1,110.80
60.00°	550.34	623.80	697.89	703.07	704.97	778.97	868.89	855.16	793.44
65.00°	353.21	425.25	508.61	502.94	498.94	553.82	642.80	599.52	507.93
70.00°	194.79	264.14	336.45	368.49	390.97	416.61	435.18	374.02	273.81
75.00°	114.09	151.42	223.40	271.86	291.81	297.50	280.24	214.23	151.27
80.00°	53.18	81.54	145.17	198.70	227.46	220.65	184.23	117.39	71.33
85.00°	19.60	44.08	86.44	128.44	147.46	148.37	115.23	61.36	25.05
90.00°	3.95	20.58	43.70	68.43	77.63	74.53	55.64	28.05	5.29
95.00°	5.33	15.16	27.19	44.90	53.91	48.17	36.61	19.05	6.90
100.00°	17.84	15.55	28.73	35.91	42.15	38.83	33.86	21.61	27.19
105.00°	33.85	16.94	20.50	33.45	39.83	38.70	20.98	20.30	43.16
110.00°	38.30	21.96	13.74	24.91	34.71	27.67	16.90	28.29	42.13
115.00°	34.66	27.92	15.92	17.62	18.43	18.86	17.86	29.32	39.42
120.00°	34.85	28.34	19.35	20.54	21.08	20.54	23.60	35.14	40.17
125.00°	38.35	30.71	21.49	21.34	24.44	27.42	25.70	34.47	36.90
130.00°	36.13	33.14	24.14	27.86	30.10	32.17	28.52	35.50	41.13
135.00°	33.18	31.70	27.14	32.52	31.79	36.19	32.01	38.39	39.28
140.00°	39.74	34.10	28.81	34.23	34.67	34.42	35.51	41.86	42.09
145.00°	35.16	35.57	32.71	35.46	38.06	38.30	38.63	45.05	46.88
150.00°	40.25	41.21	37.16	37.26	39.75	35.73	39.32	45.38	49.74
155.00°	48.47	40.17	42.03	42.41	42.89	43.59	47.69	49.16	54.28
160.00°	46.32	49.54	45.17	43.44	46.84	48.77	55.16	56.06	51.27
165.00°	57.45	49.43	56.14	49.37	54.74	55.83	51.91	52.91	53.67
170.00°	61.66	50.85	53.32	50.49	59.06	58.95	52.87	57.80	49.96
175.00°	67.63	60.28	64.12	60.33	56.98	61.35	58.62	60.44	56.20
180.00°	67.94	67.94	67.94	67.94	67.94	67.94	67.94	67.94	67.94

Zonal Lumen Summary

Zone	Lumens	% Fixture
0.00° - 10.00°	229.99	3.75%
10.00° - 20.00°	638.45	10.41%
20.00° - 30.00°	987.51	16.10%
30.00° - 40.00°	1,162.38	18.95%
40.00° - 50.00°	1,136.93	18.54%
50.00° - 60.00°	884.30	14.42%
60.00° - 70.00°	524.45	8.55%
70.00° - 80.00°	255.84	4.17%
80.00° - 90.00°	105.98	1.73%
90.00° - 100.00°	37.99	0.62%
100.00° - 110.00°	29.95	0.49%
110.00° - 120.00°	24.19	0.39%
120.00° - 130.00°	25.20	0.41%
130.00° - 140.00°	25.71	0.42%
140.00° - 150.00°	23.74	0.39%
150.00° - 160.00°	20.51	0.33%
160.00° - 170.00°	14.78	0.24%
170.00° - 180.00°	5.91	0.10%
0.00° - 90.00°	5,925.83	96.61%
90.00° - 180.00°	207.98	3.39%
0.00° - 180.00°	6,133.81	100.00%

Spacing Criterion:

Two luminaires, plane 0°	1.19
Two luminaires, plane 90°	1.25
Four luminaires	1.37