

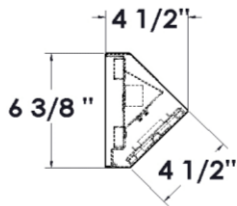
PROJECT:

NOTES:

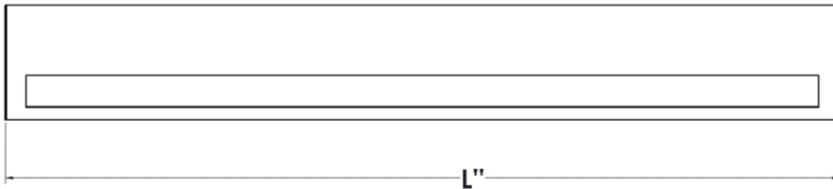
ORDERING INFORMATION:

**EXAMPLE** PUMA - H - 4F - 40 - 9 - 40 - H5 - M5 - MV - EM - D1  
 SERIES SECURITY LEVEL NOM. LENGT LUMENS CRI KELVINS DIFFUSERS LENS VOLTAGE OPTIONS DRIVER

SHOP DRAWINGS



	L
PUMA - 23	23"
PUMA - 34	34"
PUMA - 45	45"



ORDERING INFORMATION

**SERIES**  
PUMA

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

**NOMINAL LENGTH**  
 2F 23"  
 3F 34"  
 4F 45"

LUMENS

Lumen Package*	Nominal Lumens
<b>2F</b>	
20	2,000
30	3,000
<b>3F</b>	
20	2,000
30	3,000
40	4,000
<b>4F</b>	
40	4,000
50	5,000
60	6,000

\*Other lumen packages available.

**CRI**  
 BLANK 80 CRI  
 9 90 CRI

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

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

**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")

**VOLTAGE**  
 MV 120-277V  
 347 347V

**OPTIONS**  
 EM Emergency Power Pack  
 AM Antimicrobial Finish  
 SH Stainless Steel Housing  
 NLA Amber LED night light (500 lumens)  
 NLR Red LED night light (500 lumens)  
 NL White LED night light (500 lumens)\*  
 \*Confirm lumen packages and TempK with manufacture

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

FEATURES

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

APPLICATIONS

- > Prison cells
- > Correctional facilities
- > Corridors
- > Locker rooms
- > Public areas
- > Schools
- > Stairwells

LED

FIXTURE PERFORMANCE DATA

**SPECIFICATIONS**

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

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

**Internal Frame** –

*For maximum security applications:*

One piece internal frame fastened to door with 12 screws for maximum security applications.

*For minimum security applications:*

Zintec angle frame riveted to door

**Security Lens** – Variety of robust polycarbonate lenses available (outer lens).

**Diffuser** – Variety of diffusers available for smooth and uniform illumination (inner lens).

**Hinge** – Full length 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** – Wall mount

**Listings** –

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

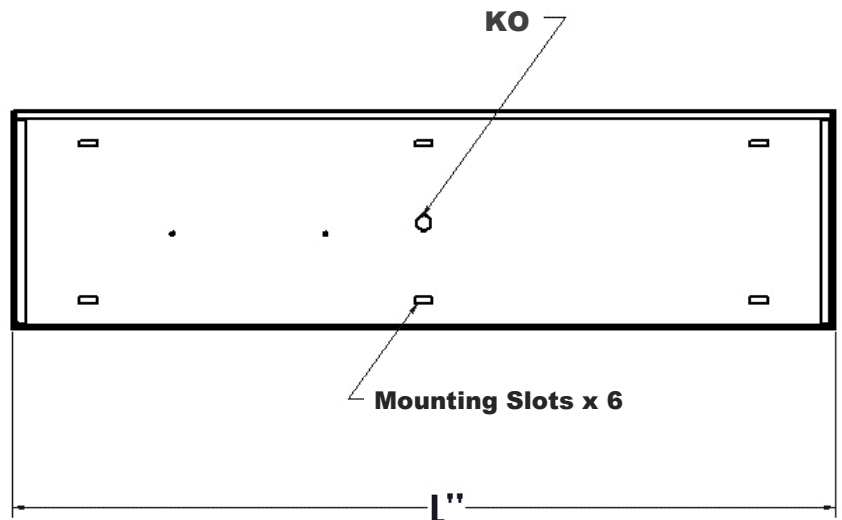
**Warranty** – 5-year limited warranty

LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)
4F			
30	3,005	28	107
40	4,119	37	111
50	5,001	47	106

\*Results based on 4000K, 80 CRI, Lens M4, Diffuser A1

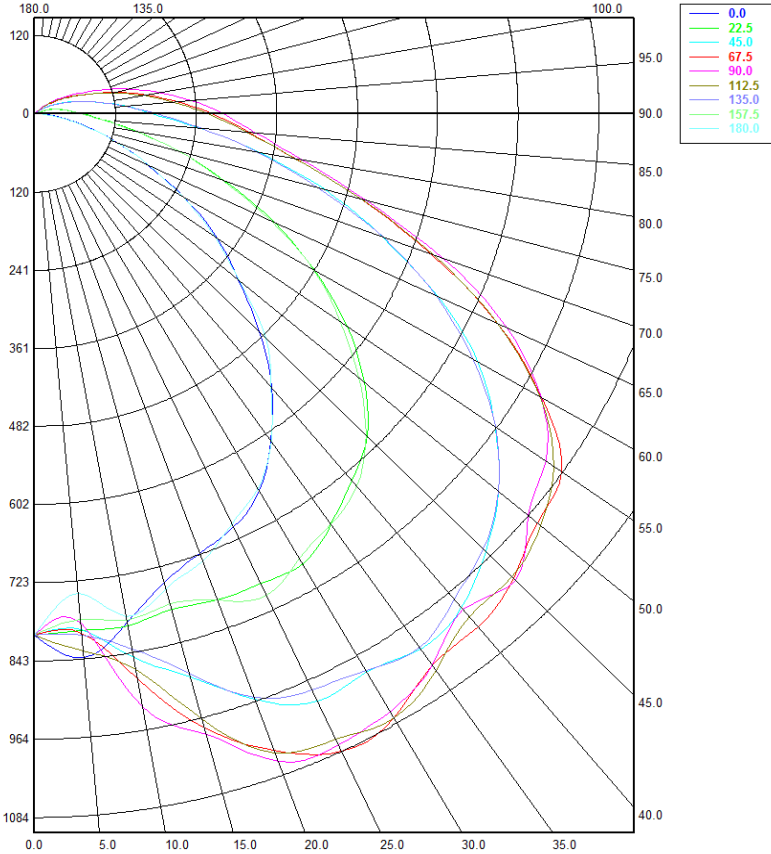
MULTIPLIER TABLE	
COLOR TEMPERATURE	
CCT/CRI	CONVERSION FACTOR
3000K / 80 CRI	0.95
3500K / 80 CRI	0.97
4000K / 80 CRI	1
5000K / 80 CRI	1.03

FIXTURE DETAILS



PHOTOMETRY

PUMA-4F-40-40-A1-M4-MV Total Luminaire Output: 4.119 lumens: 47 Watts



Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	135.00°	157.50°	180.00°
0.00°	803.03	803.03	803.03	803.03	803.03	803.03	803.03	803.03	803.03
5.00°	841.49	799.21	798.15	802.83	788.41	831.14	806.70	781.98	741.30
10.00°	796.02	801.23	850.52	883.86	927.92	869.41	837.38	791.90	786.24
15.00°	747.90	790.52	898.70	980.02	989.35	966.33	892.53	781.92	757.13
20.00°	720.76	797.05	959.79	1,043.82	1,061.63	1,048.07	957.33	797.86	733.42
25.00°	702.67	798.52	998.97	1,083.96	1,072.78	1,063.01	979.16	819.42	696.98
30.00°	670.77	800.43	992.63	1,074.99	1,062.52	1,074.91	990.13	790.40	666.53
35.00°	614.52	771.81	1,006.29	1,036.98	1,036.87	1,046.22	1,003.98	771.38	615.68
40.00°	550.31	736.69	992.93	1,031.81	996.99	1,011.66	976.48	748.45	548.77
45.00°	473.82	702.48	953.81	1,012.24	1,016.27	1,009.34	948.56	698.92	488.50
50.00°	396.55	641.70	905.12	980.82	963.50	987.61	905.28	630.76	397.18
55.00°	332.85	569.22	840.27	961.95	932.64	947.04	840.46	555.44	326.32
60.00°	257.12	482.62	765.81	876.23	874.25	872.31	758.02	480.96	254.36
65.00°	187.26	394.23	665.87	764.02	779.64	764.00	662.08	388.71	187.97
70.00°	135.32	301.36	552.25	631.99	649.79	635.00	553.27	296.46	132.11
75.00°	86.99	223.80	446.67	502.05	510.92	502.56	435.05	224.02	84.13
80.00°	49.11	154.39	338.26	393.41	405.44	392.63	336.39	151.96	47.83
85.00°	24.26	102.37	246.51	319.89	330.85	317.28	247.46	98.56	20.80
90.00°	10.18	71.30	175.01	265.14	281.96	257.73	181.57	68.99	9.57
95.00°	5.42	52.29	138.20	213.01	234.52	208.78	134.73	53.35	6.21
100.00°	2.45	38.72	99.79	168.71	188.41	163.34	101.48	39.89	2.29
105.00°	1.56	28.36	74.88	128.44	147.01	125.16	72.97	26.35	1.52
110.00°	0.74	11.56	53.49	89.33	109.70	89.96	52.11	12.61	0.83
115.00°	0.25	3.05	35.64	66.31	77.03	64.29	33.74	3.24	0.20
120.00°	0.27	0.82	21.17	42.53	52.05	44.25	19.60	0.79	0.20
125.00°	0.09	0.62	6.04	27.20	35.63	29.45	6.32	0.98	0.09
130.00°	0.09	0.62	1.49	13.05	20.80	12.84	1.39	0.47	0.24
135.00°	0.01	0.62	1.12	1.83	3.78	1.65	0.93	0.74	0.16
140.00°	0.21	0.75	1.71	1.35	1.08	1.54	1.02	0.43	0.05
145.00°	0.04	0.76	0.97	1.44	1.59	0.95	0.82	0.59	0.00
150.00°	0.00	0.50	1.06	1.16	1.38	1.58	1.39	0.38	0.02
155.00°	0.00	0.06	1.30	1.18	0.93	1.03	0.84	0.28	0.09
160.00°	0.00	0.00	0.93	0.70	0.93	0.57	0.82	0.26	0.00
165.00°	0.00	0.14	0.40	0.40	1.53	0.17	0.12	0.20	0.00
170.00°	0.00	0.09	0.51	0.26	0.27	0.18	0.33	0.00	0.00
175.00°	0.00	0.07	0.00	0.07	0.00	0.00	0.00	0.00	0.00
180.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Spacing Criterion:

Two luminaires, plane 0°	1.23
Two luminaires, plane 90°	1.83
Four luminaires	1.83

Zonal Lumen Summary

Zone	Lumens	% Fixture
0.00° - 10.00°	83.20	2.02%
10.00° - 20.00°	251.85	6.11%
20.00° - 30.00°	431.94	10.48%
30.00° - 40.00°	569.26	13.82%
40.00° - 50.00°	653.95	15.87%
50.00° - 60.00°	662.91	16.09%
60.00° - 70.00°	566.08	13.74%
70.00° - 80.00°	389.74	9.46%
80.00° - 90.00°	234.91	5.70%
90.00° - 100.00°	143.05	3.47%
100.00° - 110.00°	80.61	1.96%
110.00° - 120.00°	36.50	0.89%
120.00° - 130.00°	12.69	0.31%
130.00° - 140.00°	2.03	0.05%
140.00° - 150.00°	0.58	0.01%
150.00° - 160.00°	0.34	0.01%
160.00° - 170.00°	0.11	0.00%
170.00° - 180.00°	0.01	0.00%
0.00° - 90.00°	3,843.82	93.30%
90.00° - 180.00°	275.92	6.70%
0.00° - 180.00°	4,119.74	100.00%

