

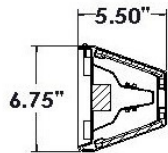
PROJECT:

NOTES:

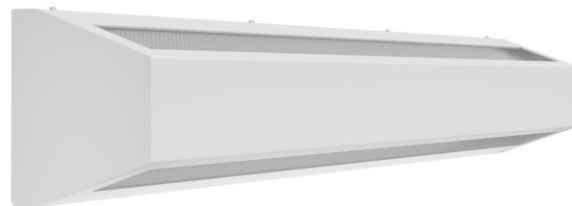
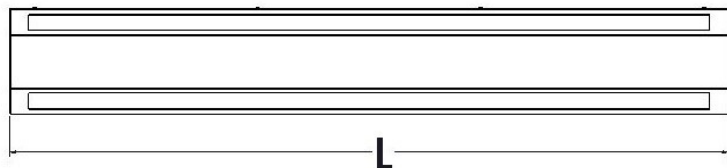
ORDERING INFORMATION:

EXAMPLE PUOA - H - 4F - 40 - 20 - 9 - 40K - H5 - M5 - MV - 2C - EM - DA
SERIES SECURITY LEVEL DIMENSIONS LUMENS UP LUMENS DOWN CRI KELVINS DIFFUSERS LENS VOLTAGE CIRCUITS OPTIONS DRIVER

SHOP DRAWINGS



	L
PUOA - 23	23.50"
PUOA - 45	45.15"



ORDERING INFORMATION

SERIES
PUOA

SECURITY LEVEL
 H Heavy (14 gauge)
 M Medium (16 gauge)
 L Light (18 gauge)

NOMINAL LENGTH
 2F 23"
 4F 45"

LUMENS UP*
 20 2,000
 30 3,000
 40 4,000
 50 5,000

*Other lumen packages available.

LUMENS DOWN*
 20 2,000
 30 3,000
 40 4,000
 50 5,000

*Other lumen packages available.

CRI
 BLANK 80 CRI
 9 90 CRI

KELVIN
 30K 3000K
 35K 3500K
 40K 4000K
 50K 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

CIRCUITS
 1C 1 Circuit
 2C 2 Circuits

OPTIONS
 EM Emergency Power Pack
 AM Antimicrobial Finish
 AL Anti-Ligature
 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)*
 LV Low Voltage Relay Ready (Patient Controlled)**

*Confirm lumen packages and TempK with manufacture
 **Remote control not supplied by PA-CO and only 2 loads can be dimmable

DRIVERS
 ND Non-dimming applications
 D 0-10V dimming
 DA DALI driver

FEATURES

- > Specification-grade direct/indirect wall mounted LED luminaire for anti-vandal and maximum security applications
- > Robust clamshell housing designed to prevent penetration and contraband concealment
- > Two apertures provide up and down light
- > Security lens (multiple thicknesses available) secured with internal frame
- > Concealed piano hinge welded to door frame and fastened to backplate
- > Continuous welded and ground seams for optimal structural strength
- > Tamper resistant fasteners
- > Minimum 80 CRI; color range 3000K - 5000K available
- > Multiple dimming protocols available
- > IK10 rated

APPLICATIONS

- > Prison cells
- > Correctional facilities
- > Corridors
- > Locker rooms
- > Public areas
- > Patient Rooms

FIXTURE PERFORMANCE DATA

SPECIFICATIONS

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

Back-plate – Die-formed 14,16 or 18 gauge CRS with embossed mounting holes and contraband trap

Internal Frame – One piece precision die formed internal frame fastened to housing with multiple screws

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

Diffuser - Variety of diffusers available for smooth and uniform illumination (inner lens)

Hinge – Concealed 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 – Surface Wall Mount

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

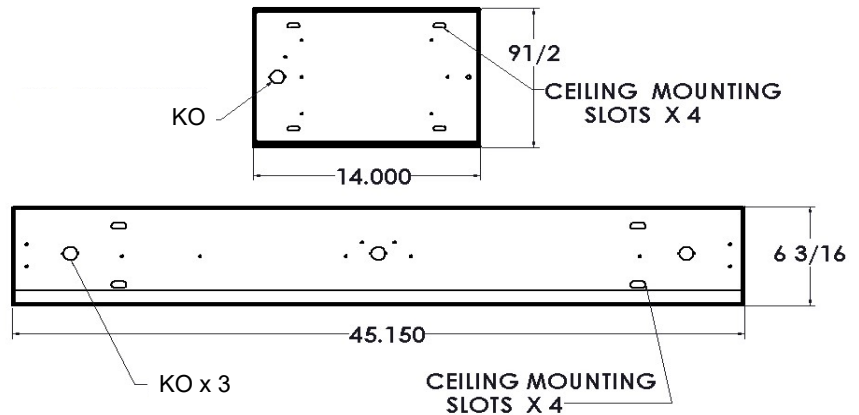
Warranty – 5-year limited warranty

LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)
2F			
30	3,052	27	113
40	4,069	37	110
4F			
40	4,097	31	111
60	6,162	46	134

*Results based on 4000K, 80 CRI, Security Lens (M1), Diffuser (H5)

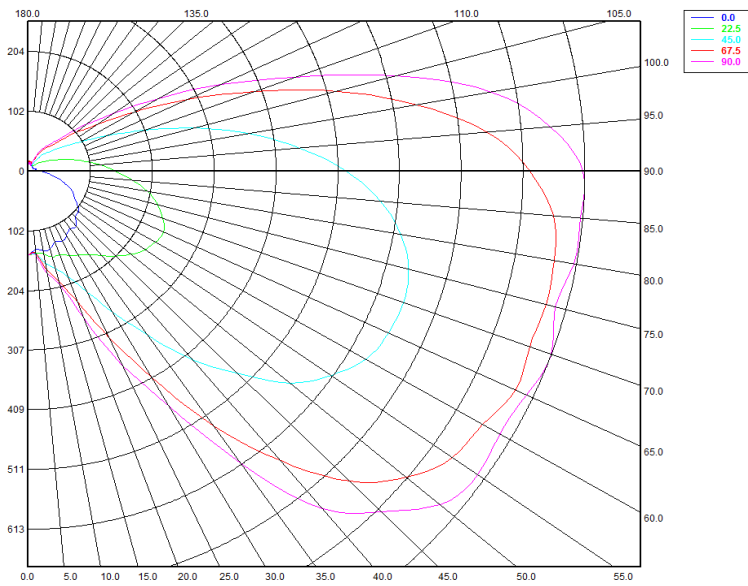
MULTIPLIER TABLE	
COLOR TEMPERATURE	
CCT/CRI	CONVERSION FACTOR
3000K / 80 CRI	0.95
3500K / 80 CRI	0.97
4000K / 80 CRI	1
5000K / 80 CRI	1.03

FIXTURE DETAILS



PHOTOMETRY

PUOA-4F-20-20-40K-A1-M1-MV Total Luminaire Output: 4,097 lumens; 31 Watts



Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°
0.00°	144.07	144.07	144.07	144.07	144.07
5.00°	134.89	140.60	142.99	141.65	144.91
10.00°	137.71	143.57	158.41	169.17	176.80
15.00°	138.46	151.75	172.34	195.07	200.54
20.00°	129.06	152.02	192.78	240.76	270.04
25.00°	132.35	159.05	226.69	314.69	366.47
30.00°	126.47	165.45	281.20	409.24	466.20
35.00°	120.29	173.72	344.38	532.22	610.03
40.00°	122.67	188.30	423.28	647.82	754.65
45.00°	110.09	205.19	491.90	751.20	824.22
50.00°	107.97	220.89	564.84	816.00	888.13
55.00°	98.60	234.25	609.95	855.77	906.74
60.00°	87.77	241.82	643.82	867.37	900.73
65.00°	79.21	246.51	657.25	888.49	907.90
70.00°	65.62	235.79	660.36	881.76	919.66
75.00°	52.76	220.36	650.88	885.95	901.79
80.00°	38.17	199.78	625.95	882.08	915.08
85.00°	28.03	170.69	583.42	871.10	916.42
90.00°	20.05	142.90	524.19	828.57	916.76
95.00°	13.34	119.21	449.84	762.33	866.21
100.00°	12.25	95.44	368.37	651.67	777.88
105.00°	13.36	76.31	284.42	527.18	627.53
110.00°	12.05	57.31	203.27	396.66	469.61
115.00°	10.14	44.09	144.48	290.25	349.73
120.00°	8.83	34.01	100.32	202.51	248.46
125.00°	9.44	26.84	75.64	137.86	172.73
130.00°	9.12	21.83	55.37	101.93	122.49
135.00°	9.44	15.12	45.64	72.47	86.01
140.00°	10.10	12.24	36.45	55.35	64.13
145.00°	10.12	11.26	24.40	48.12	51.71
150.00°	11.15	12.66	14.59	33.80	41.58
155.00°	11.68	13.31	12.24	18.05	22.02
160.00°	14.72	13.39	14.14	10.76	9.36
165.00°	14.64	15.11	15.70	16.70	14.57
170.00°	16.53	15.41	16.11	14.77	13.83
175.00°	13.84	16.65	15.37	17.44	12.70
180.00°	14.94	14.94	14.94	14.94	14.94

Zonal Lumen Summary

Zone	Lumens	% Fixture
0.00° - 10.00°	15.09	0.37%
10.00° - 20.00°	50.30	1.23%
20.00° - 30.00°	112.88	2.75%
30.00° - 40.00°	225.52	5.50%
40.00° - 50.00°	370.60	9.04%
50.00° - 60.00°	490.81	11.98%
60.00° - 70.00°	563.42	13.75%
70.00° - 80.00°	589.36	14.38%
80.00° - 90.00°	568.29	13.87%
90.00° - 100.00°	478.28	11.67%
100.00° - 110.00°	319.69	7.80%
110.00° - 120.00°	167.26	4.08%
120.00° - 130.00°	77.68	1.90%
130.00° - 140.00°	36.61	0.89%
140.00° - 150.00°	18.23	0.44%
150.00° - 160.00°	7.68	0.19%
160.00° - 170.00°	4.11	0.10%
170.00° - 180.00°	1.57	0.04%
0.00° - 90.00°	2,986.26	72.88%
90.00° - 180.00°	1,111.10	27.12%
0.00° - 180.00°	4,097.36	100.00%

Spacing Criterion:

Two luminaires, plane 0°	1.3
Two luminaires, plane 90°	4.19
Four luminaires	3.41