

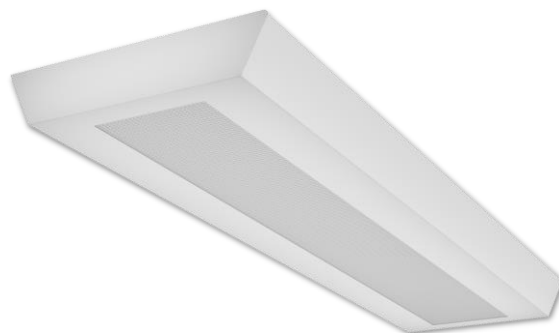
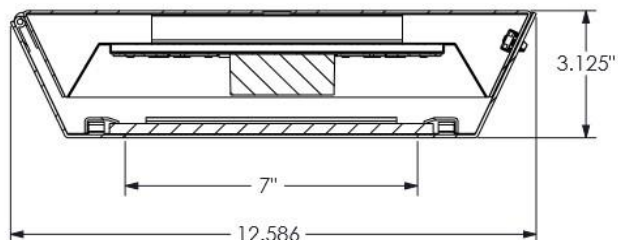
PROJECT:

NOTES:

ORDERING INFORMATION:

EXAMPLE PUWA - H - 45 - L - 40 - 9 - 40 - H5 - M4 - MV - EM - CLE4 DM
 SERIES SECURITY LEVEL NOM. LENGT SOURCE LUMENS CRI KELVINS DIFFUSERS LENS VOLTAGE OPTIONS CONTROLS DRIVER

SHOP DRAWINGS



ORDERING INFORMATION

SERIES
 PUWA

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
 A0 Acrylic K12 (0.95")
 L1 Frosted Acrylic
 H5 White Opal

NOMINAL LENGTH
 23 23"
 45 45"

SECURITY LENS
 M1 Clear Polycarbonate (0.125")
 M3 Clear Polycarbonate (0.167")
 M4 Clear Polycarbonate (0.250")
 M5 Clear Polycarbonate (0.375")

SOURCE
 L LED

VOLTAGE
 MV 120-277V
 347 347V

LUMENS

OPTIONS
 EM Emergency Power Pack
 AM Anti-Microbial Paint
 NL LED Night Light (Red or Amber)

Lumen Package*	Nom. Lumens	Wattage
23"		
30	3,000	33
40	4,000	37
45"		
40	4,000	38
60	6,000	57
80	8,000	76

*Other lumen packages available

CONTROLS
 BLANK None
 Click on the following link for control options:
<https://bit.ly/2C5lXga>

CRI
 BLANK 80 CRI
 9 90 CRI

DRIVERS
 BLANK None
 DM 0-10V dimming
 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
- > 100% made in Canada

APPLICATIONS

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

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. L85 >50,000 hours.

Mounting – Suspended or surface

- Listings** –
- CSA certified as luminaire suitable for dry or damp locations.
 - cUL certified as luminaire suitable for dry or damp locations.

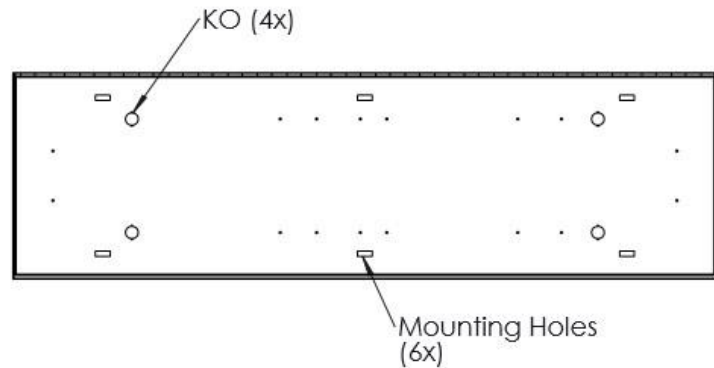
Warranty – 5-year limited warranty

LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)
23"			
30	3,023	28	108
45"			
40	4,043	38	106
60	6,133	57	107

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

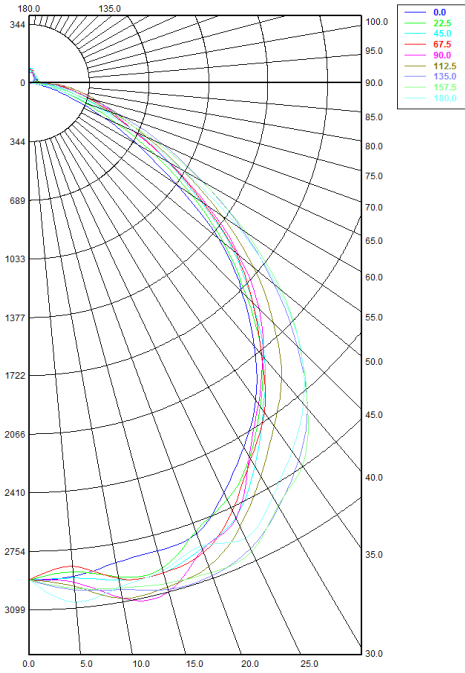
MULTIPLIER TABLE	
COLOR TEMPERATURE	
CCT/CRI	CONVERSION FACTOR
3000K / 80 CRI	0.95
3500K / 80 CRI	0.97
4000K / 80 CRI	1
5000K / 80 CRI	1.03

FIXTURE DETAILS



PHOTOMETRY

PUWA-H-45-L-60-40-A1-M1-MVOLT 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