

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: INVUE

Report Number: P368670

Luminaire Tested: **MSA-SA4D-760-U-RW**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368670
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-760-U-RW
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 27017 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B4 - U0 - G4

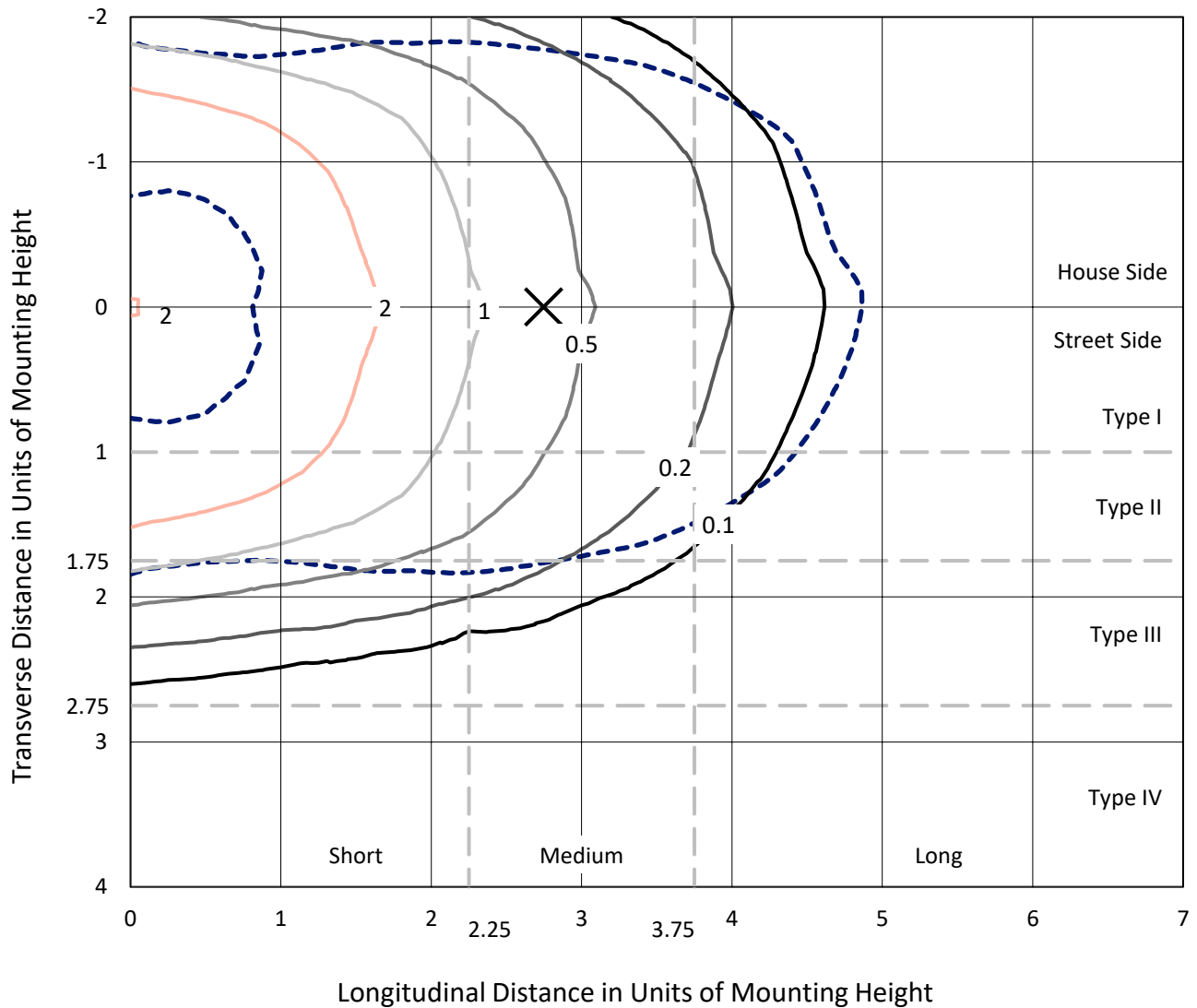
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P368670
 CATALOG NUMBER: MSA-SA4D-760-U-RW

Iso-Footcandle Lines of Horizontal Illumination

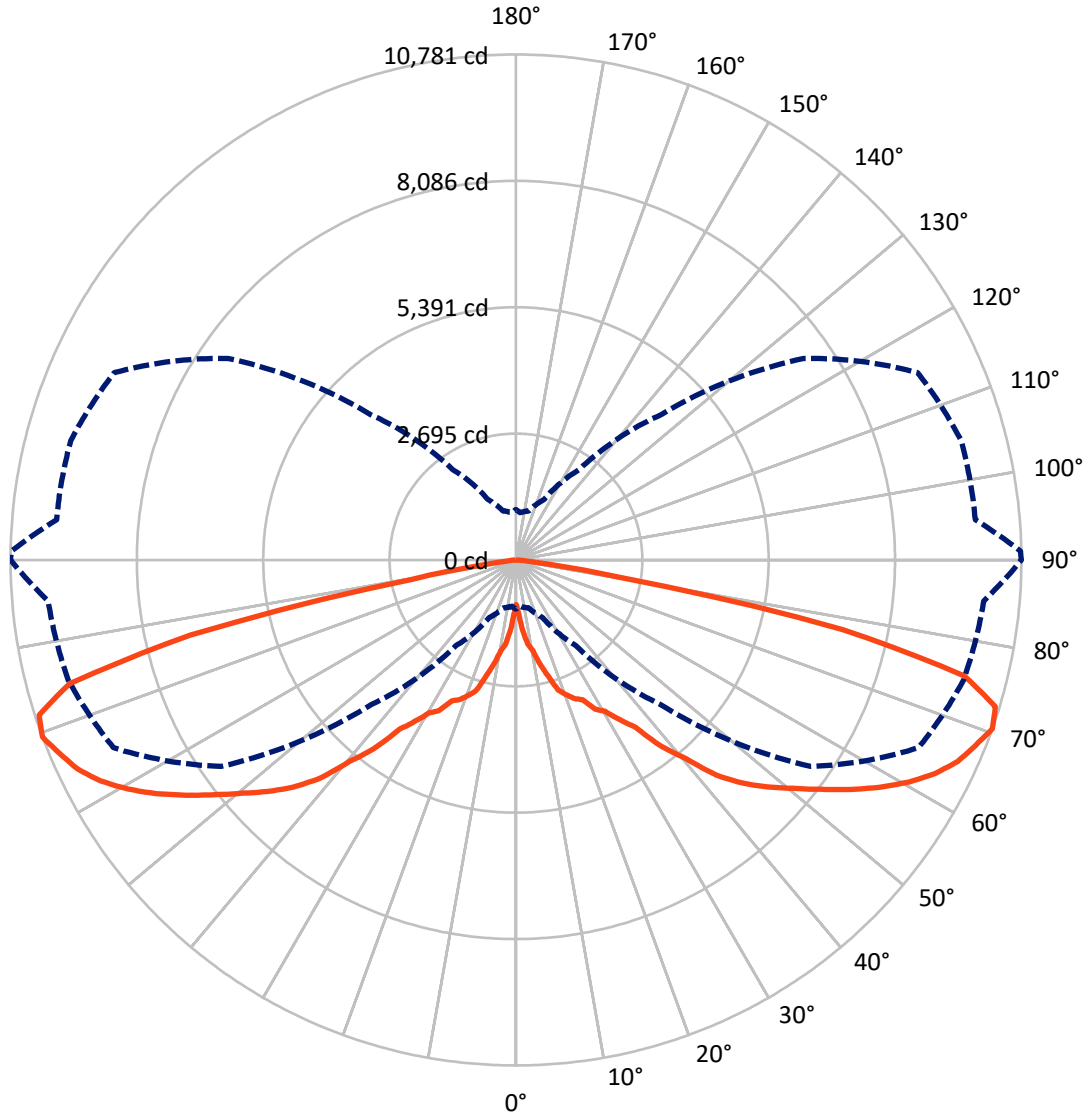
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.4 fc
 Type III - Short - N/A

REPORT NUMBER: P368670
CATALOG NUMBER: MSA-SA4D-760-U-RW

Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P368670

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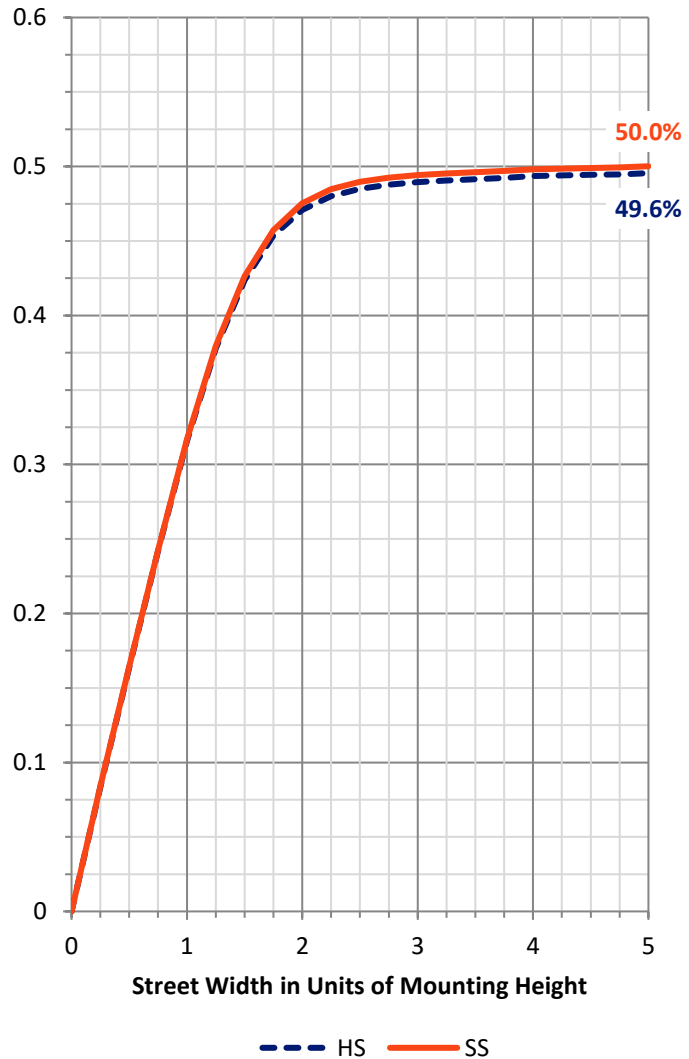
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	13458.5	0.0	13458.5
	% Fixture	49.8	0.0	49.8
Street Side	Lumens	13558.5	0.0	13558.5
	% Fixture	50.2	0.0	50.2
Total	Lumens	27017.0	0.0	27017.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.0	0.5
10°-20°	655.6	2.4
20°-30°	1417.5	5.2
30°-40°	2704.4	10.0
40°-50°	4913.1	18.2
50°-60°	6901.7	25.5
60°-70°	6589.7	24.4
70°-80°	3381.9	12.5
80°-90°	310.1	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	27017.0	100.0
0°-180°	27017.0	100.0

Coefficient of Utilization

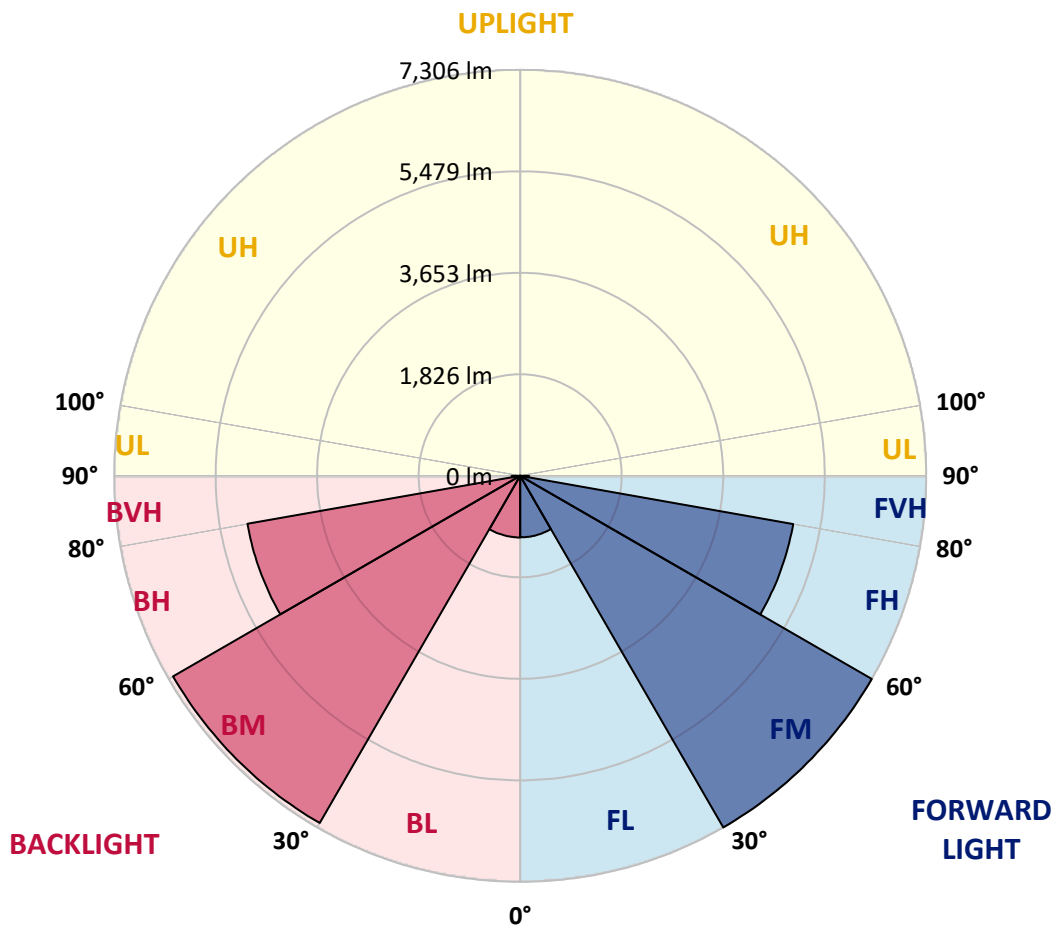


REPORT NUMBER: P368670
 CATALOG NUMBER: MSA-SA4D-760-U-RW

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1107.0	4.1			
FM (30°-60°)	7305.7	27.0			
FH (60°-80°)	4988.5	18.5			G2/5000
FVH (80°-90°)	157.3	0.6			G2/225
BL (0°-30°)	1109.1	4.1	B3/2500		
BM (30°-60°)	7213.5	26.7	B4/8500		
BH (60°-80°)	4983.1	18.4	B4/5000		G4/5000
BVH (80°-90°)	152.7	0.6			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4
 Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	948.2	948.2	948.2	948.2	948.2	948.2	948.2	948.2	948.2	948.2	948.2
2.5°	1148.6	1105.9	1052.3	1084.0	1097.2	1120.1	1116.9	1105.9	1058.8	1137.7	1146.4
5°	1437.7	1369.8	1344.6	1340.2	1346.8	1324.9	1396.1	1375.3	1413.6	1484.8	1501.2
7.5°	1637.0	1586.6	1532.9	1549.4	1481.5	1471.6	1563.6	1645.7	1666.5	1796.8	1805.6
10°	1731.1	1681.9	1696.1	1686.2	1678.6	1742.1	1784.8	1845.0	1931.5	1943.6	1962.2
12.5°	1811.1	1830.8	1893.2	1891.0	1993.9	2106.7	2090.3	2152.7	2166.9	2318.0	2272.0
15°	2013.6	2054.1	2049.8	2088.1	2133.0	2318.0	2319.1	2425.3	2522.8	2581.9	2566.6
17.5°	2310.4	2324.6	2265.5	2267.7	2398.0	2473.5	2557.8	2539.2	2793.2	2909.3	2917.0
20°	2487.7	2523.9	2456.0	2366.2	2597.2	2701.3	2748.4	2639.9	2911.5	3068.1	3068.1
22.5°	2797.6	2704.6	2601.6	2541.4	2745.1	2855.7	2850.2	2819.5	2964.1	3241.1	3214.8
25°	2968.4	2915.9	2864.4	2879.7	2982.7	3039.6	3115.2	3044.0	3179.8	3385.6	3299.1
27.5°	3292.5	3195.1	2942.2	3143.6	3143.6	3100.9	3260.8	3294.7	3206.0	3541.1	3605.7
30°	3659.4	3625.4	3267.4	3480.9	3415.2	3294.7	3601.3	3579.4	3430.5	3772.1	3742.6
32.5°	4006.5	4118.1	3778.7	3661.5	3760.1	3806.1	3645.1	3710.8	3739.3	4068.9	4054.6
35°	4538.6	4632.8	4182.7	4153.2	3988.9	3946.2	4068.9	4090.8	4093.0	4440.1	4376.6
37.5°	5459.5	5323.7	4879.1	4670.0	4688.6	4637.2	4661.2	4488.2	4512.3	5016.0	5047.8
40°	6132.9	5979.6	5484.7	5334.6	4966.7	5186.8	4991.9	4974.4	4926.2	5578.8	5561.3
42.5°	6876.3	6666.1	6118.6	5918.3	5527.4	5437.6	5347.8	5550.4	5537.2	6141.6	6275.2
45°	7438.1	7013.2	6727.4	6602.6	6368.3	6148.2	6062.8	6153.7	6112.1	6561.0	6794.2
47.5°	7792.8	7423.8	7095.3	6832.6	6608.1	7147.9	6715.4	6593.9	6509.5	7012.1	7236.6
50°	8075.3	7649.4	7261.8	7174.2	7351.6	7829.0	7146.8	6878.5	6981.5	7351.6	7657.1
52.5°	8152.0	7700.9	7352.7	7296.8	7776.4	7862.9	7752.3	7301.2	7273.8	7758.9	8127.9
55°	7917.7	7485.1	7319.8	7625.3	8155.3	8083.0	8251.6	7963.6	7769.8	8175.0	8639.2
57.5°	7314.3	6885.1	6845.7	7285.9	7953.8	8569.2	8652.4	8424.6	8170.6	8599.8	9147.3
60°	6323.4	5931.4	6031.0	6517.2	7524.6	8400.5	8842.9	8634.9	8556.0	8983.1	9618.1
62.5°	4780.6	4475.1	4741.2	5419.0	6740.6	8182.6	9105.7	9072.8	8959.0	9390.4	10034.2
65°	3048.4	2887.4	3159.0	3847.7	5524.1	7786.3	9231.6	9275.4	9380.5	9704.6	10356.1
67.5°	1771.6	1686.2	1851.6	2415.5	3934.2	6393.5	8997.3	9625.8	9680.5	9866.7	10567.5
70°	1047.9	992.0	1059.9	1356.7	2227.1	4355.8	7674.6	9472.5	9886.4	10015.6	10781.0
72.5°	799.3	746.8	717.2	802.6	1162.8	2250.1	5189.0	8029.3	9721.1	9917.1	10691.2
75°	690.9	640.6	605.5	613.2	692.0	1068.7	2813.0	5743.1	8283.4	9030.1	9875.4
77.5°	593.5	548.6	523.4	521.2	531.1	586.9	1176.0	3114.1	5187.9	6490.9	7119.4
80°	475.2	440.2	434.7	434.7	420.5	416.1	584.7	1184.7	1974.2	2341.0	2244.7
82.5°	347.1	312.1	347.1	342.7	320.8	303.3	372.3	512.4	608.8	480.7	380.0
85°	234.3	202.6	228.8	233.2	212.4	157.7	223.4	256.2	262.8	164.2	135.8
87.5°	82.1	79.9	129.2	112.8	92.0	53.7	82.1	88.7	93.1	58.0	39.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P368670

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CANDELA DISTRIBUTION (continued):

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	948.2	948.2	948.2	948.2	948.2	948.2	948.2	948.2	948.2	948.2	948.2
2.5°	1149.7	1136.6	1070.9	1080.7	1105.9	1118.0	1130.0	1080.7	1056.6	1133.3	1125.6
5°	1505.6	1457.4	1403.7	1396.1	1399.4	1352.3	1379.6	1367.6	1373.1	1422.4	1432.2
7.5°	1803.4	1745.4	1674.2	1618.4	1522.0	1445.3	1510.0	1542.8	1552.7	1640.3	1673.1
10°	1964.4	1915.1	1894.3	1789.2	1757.4	1747.6	1732.2	1679.7	1737.7	1716.9	1733.3
12.5°	2279.7	2269.9	2161.5	2092.5	2099.0	2117.7	2021.3	1968.7	1893.2	2011.4	1968.7
15°	2548.0	2590.7	2482.3	2356.4	2293.9	2325.7	2252.3	2175.7	2107.8	2143.9	2097.9
17.5°	2890.7	2889.6	2678.3	2543.6	2538.1	2535.9	2427.5	2258.9	2339.9	2314.7	2316.9
20°	3072.5	3042.9	2780.1	2624.6	2757.1	2710.0	2612.6	2395.8	2489.9	2520.6	2540.3
22.5°	3224.7	3208.2	2889.6	2775.7	2861.1	2862.2	2764.8	2650.9	2638.9	2734.1	2682.7
25°	3330.9	3396.6	3096.5	3069.2	3106.4	3069.2	2973.9	2899.5	2851.3	2993.6	2851.3
27.5°	3582.7	3489.6	3128.3	3283.8	3306.8	3119.5	3238.9	3151.3	3017.7	3194.0	3252.0
30°	3762.3	3817.0	3351.7	3586.0	3558.6	3385.6	3434.9	3431.6	3271.7	3615.6	3575.0
32.5°	4071.1	4005.4	3716.3	3697.7	3763.4	3755.7	3672.5	3713.0	3752.4	4002.1	4062.3
35°	4387.5	4457.6	3949.5	4075.4	4056.8	3938.6	4156.5	4131.3	4248.4	4760.9	4591.2
37.5°	5101.4	4767.5	4472.9	4456.5	4581.3	4599.9	4529.9	4640.4	4893.4	5287.6	5469.3
40°	5569.0	5416.8	4916.4	4936.1	4763.1	5060.9	4863.8	5219.7	5412.4	6077.0	6012.4
42.5°	6276.3	5905.1	5424.4	5490.1	5455.1	5311.7	5571.2	5754.0	6029.9	6536.9	6864.3
45°	6803.0	6293.8	6066.1	6025.6	6021.2	6270.8	6238.0	6530.3	6628.9	7009.9	7281.5
47.5°	7202.6	6770.1	6432.9	6478.9	6345.3	7058.1	6678.2	6769.0	6968.3	7327.5	7643.9
50°	7676.8	7195.0	6811.7	6925.6	7250.8	7524.6	7180.7	7025.3	7122.7	7546.5	7899.0
52.5°	8115.8	7608.9	7187.3	7282.6	7813.6	7688.8	7651.6	7258.5	7246.4	7587.0	7987.7
55°	8629.4	8057.8	7685.5	7987.7	8176.1	8021.7	7962.6	7484.1	7188.4	7377.8	7755.6
57.5°	9133.1	8502.4	8132.3	8194.7	8433.4	8280.1	7836.6	7099.7	6730.7	6767.9	7150.1
60°	9605.0	8910.8	8605.3	8545.1	8735.6	8134.5	7358.1	6395.7	5906.2	5816.4	6147.1
62.5°	10009.0	9252.4	8963.3	8799.1	8980.9	8139.9	6612.5	5265.7	4728.0	4423.6	4681.0
65°	10329.9	9536.0	9330.2	9244.7	9310.4	7645.0	5450.7	3866.3	3207.1	2869.9	3019.9
67.5°	10543.4	9694.8	9600.6	9712.3	8836.3	6367.2	4038.2	2474.6	1864.7	1680.8	1774.9
70°	10764.6	9834.9	9831.6	9451.7	7492.8	4389.7	2358.5	1426.7	1085.1	1013.9	1073.1
72.5°	10690.1	9668.5	9717.8	8265.9	5192.3	2346.5	1245.0	807.0	734.7	759.9	812.5
75°	9899.5	8790.3	8552.7	5942.3	2945.4	1090.6	717.2	611.0	606.6	644.9	696.4
77.5°	7180.7	6121.9	5493.4	3368.1	1262.5	590.2	527.8	510.3	510.3	540.9	586.9
80°	2367.3	2048.7	2135.2	1303.0	596.8	407.3	411.7	419.4	417.2	424.8	463.2
82.5°	388.7	402.9	623.0	532.2	360.2	278.1	311.0	326.3	330.7	295.6	336.2
85°	138.0	155.5	265.0	246.4	208.0	140.2	204.8	228.8	225.6	197.1	217.9
87.5°	42.7	54.7	96.4	74.5	62.4	38.3	76.6	89.8	112.8	46.0	41.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)