

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: P368441

Luminaire Tested: **MSA-SA4B-830-U-T3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368441
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-830-U-T3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11402 lumens
Efficiency: N/A
Efficacy: 66.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

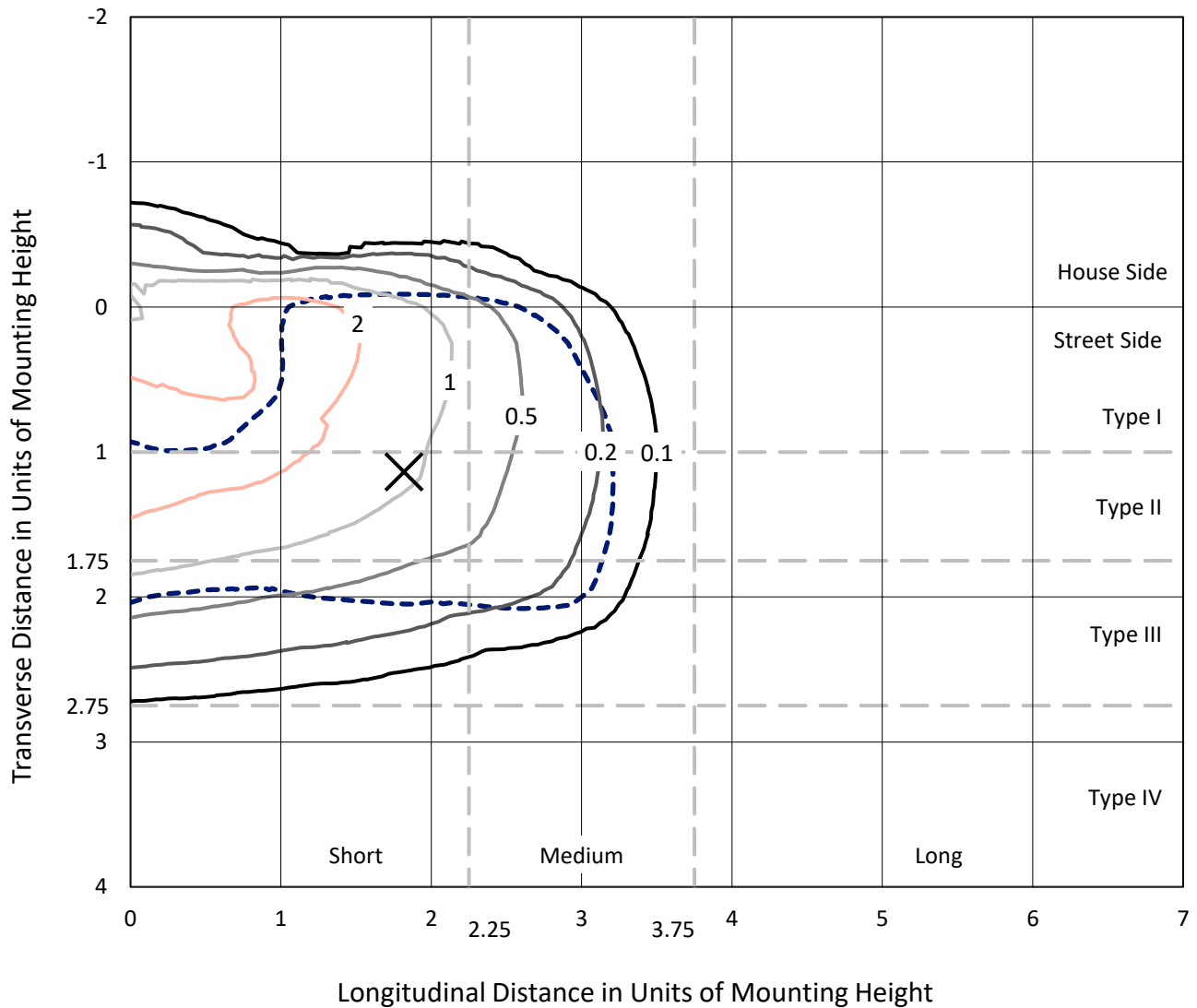
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

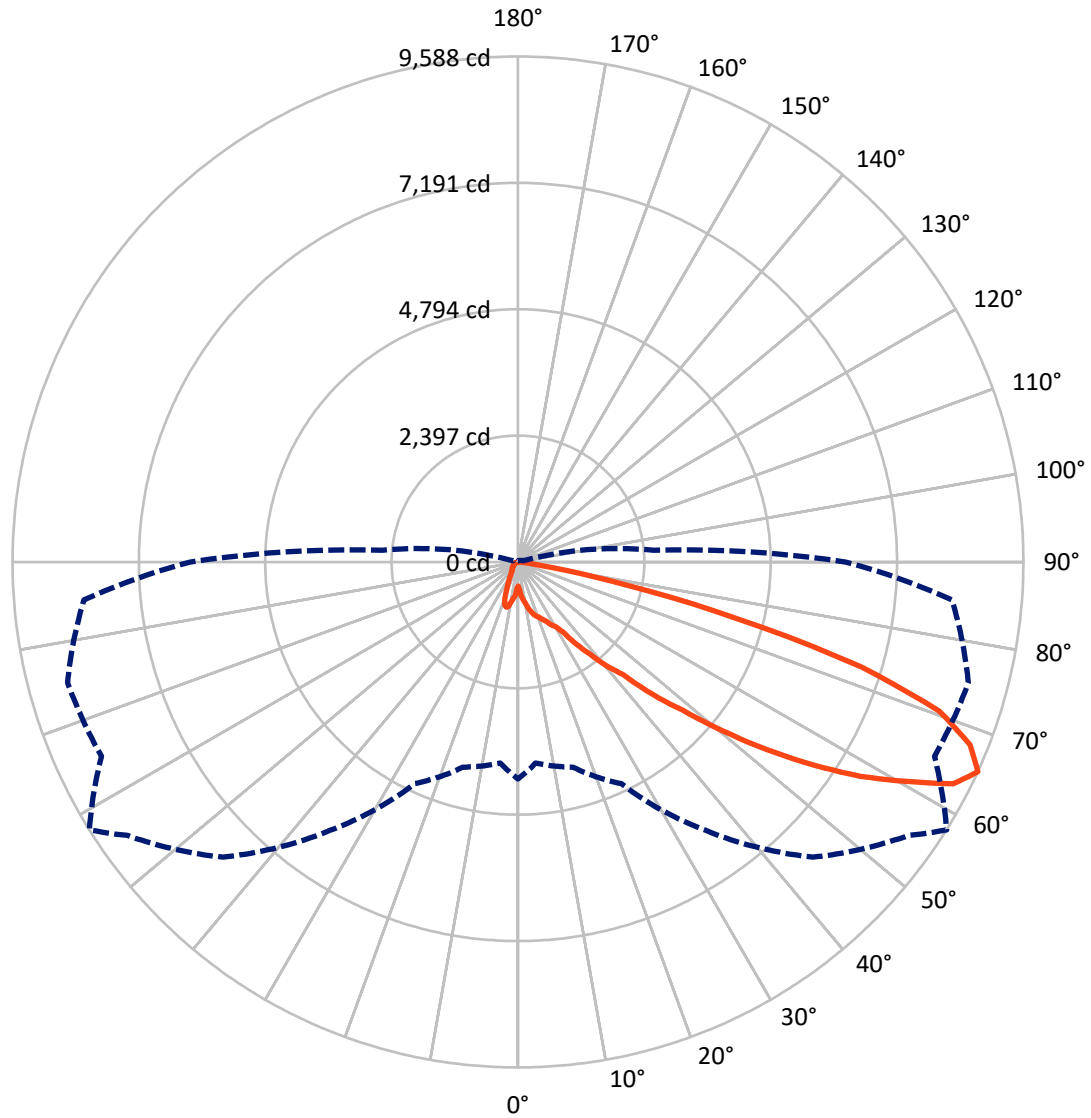
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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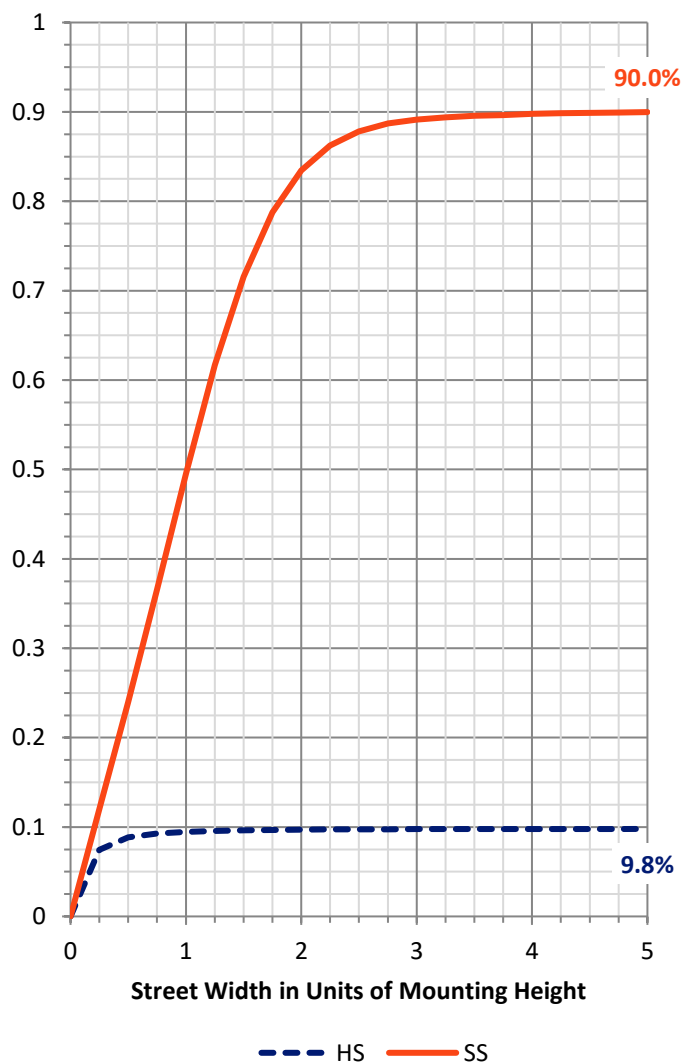
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1125.1	0.0	1125.1
	% Fixture	9.9	0.0	9.9
Street Side	Lumens	10276.9	0.0	10276.9
	% Fixture	90.1	0.0	90.1
Total	Lumens	11402.0	0.0	11402.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.1	0.6
10°-20°	234.0	2.1
20°-30°	453.0	4.0
30°-40°	903.9	7.9
40°-50°	1847.9	16.2
50°-60°	3277.5	28.7
60°-70°	3455.4	30.3
70°-80°	1120.3	9.8
80°-90°	45.8	0.4
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°	11402.0	100.0
0°-180°	11402.0	100.0

Coefficient of Utilization



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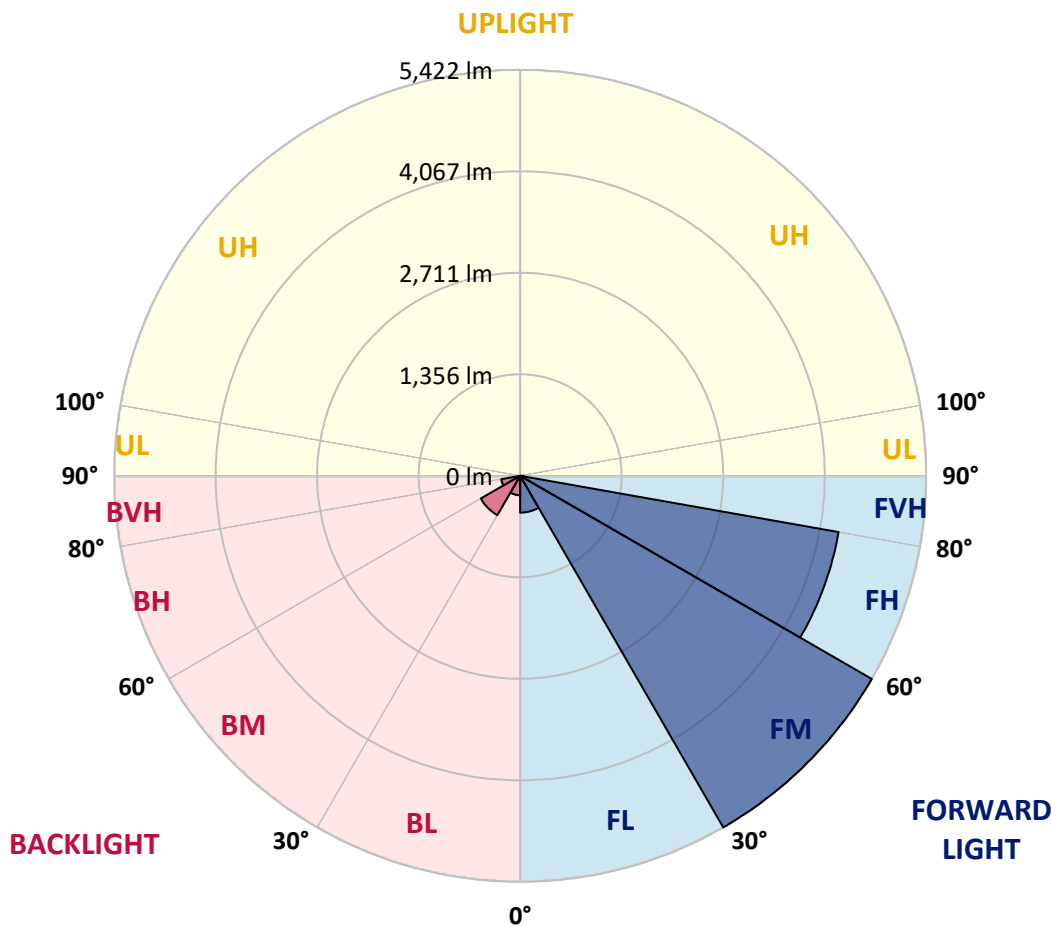
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	491.9	4.3			
FM (30°-60°)	5422.2	47.6			
FH (60°-80°)	4318.9	37.9			G2/5000
FVH (80°-90°)	43.9	0.4			G1/100
BL (0°-30°)	259.3	2.3	B1/500		
BM (30°-60°)	607.0	5.3	B1/1000		
BH (60°-80°)	256.8	2.3	B1/500		G1/500
BVH (80°-90°)	1.9	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	456.4	456.4	456.4	456.4	456.4	456.4	456.4	456.4	456.4	456.4	456.4
2.5°	557.2	540.5	514.2	518.7	523.8	534.1	525.8	518.1	509.7	498.8	540.5
5°	672.8	645.2	642.6	636.8	632.3	631.7	642.0	638.8	643.3	663.8	685.0
7.5°	715.2	703.6	681.8	690.8	676.6	665.7	711.3	726.1	754.3	763.9	819.2
10°	710.7	694.0	703.0	707.4	717.1	756.9	785.8	801.8	826.2	878.9	867.9
12.5°	731.2	746.0	755.6	756.2	805.7	878.9	899.4	912.9	956.5	977.1	1031.0
15°	799.9	824.3	808.9	815.3	831.3	920.6	968.7	998.3	1059.9	1126.7	1140.1
17.5°	898.1	913.5	881.4	858.3	902.6	951.4	1038.7	1069.5	1108.7	1264.7	1293.6
20°	1022.0	1048.3	979.0	887.2	945.6	1003.4	1098.4	1113.2	1154.9	1358.4	1404.0
22.5°	1311.5	1272.4	1166.5	1023.3	1006.0	1031.6	1122.2	1179.9	1250.6	1411.0	1517.0
25°	1597.2	1583.7	1427.7	1267.9	1152.3	1094.6	1214.6	1246.7	1362.3	1536.2	1594.7
27.5°	1915.0	1942.0	1681.3	1584.4	1357.8	1169.0	1272.4	1352.6	1489.4	1581.8	1722.4
30°	2334.2	2291.2	1985.6	1888.7	1630.0	1373.8	1422.0	1427.1	1628.0	1732.0	1865.6
32.5°	2662.9	2690.5	2306.6	2157.7	1950.9	1689.0	1534.3	1601.1	1744.9	1976.6	2103.1
35°	3018.5	3016.0	2641.7	2441.4	2171.1	1946.4	1867.5	1916.3	2096.7	2359.2	2392.6
37.5°	3550.1	3504.5	3062.8	2769.5	2539.6	2347.7	2287.3	2222.5	2408.7	2659.0	2784.2
40°	4051.5	3894.2	3485.9	3137.9	2843.9	2765.6	2547.3	2587.1	2642.3	2973.0	3319.0
42.5°	4558.0	4460.4	3914.7	3623.3	3261.8	3075.7	2933.2	2914.5	3177.1	3568.7	3926.3
45°	5226.3	4927.8	4491.2	4235.1	3816.5	3629.7	3514.8	3583.5	3819.7	4391.7	4629.9
47.5°	5787.3	5512.6	5137.7	4748.6	4309.5	4519.5	4303.8	4195.3	4519.5	5110.7	5427.2
50°	6269.5	5963.2	5583.8	5295.6	5224.3	5425.9	4989.4	5029.2	5239.7	5934.4	6112.8
52.5°	6620.0	6297.7	5966.5	5827.1	6119.2	6220.7	6001.8	5913.8	6105.1	6636.7	6723.3
55°	6883.8	6553.9	6295.1	6487.1	7052.0	7018.6	7095.7	6795.2	6978.2	7369.2	7328.1
57.5°	6899.9	6508.9	6357.4	6666.2	7441.7	7958.5	8183.8	7672.8	7776.8	7941.8	7849.4
60°	6395.3	6006.3	5994.1	6432.5	7554.7	8201.8	8694.8	8445.7	8306.4	8429.0	8253.8
62.5°	5390.0	5117.8	5244.9	5729.6	7134.2	8067.6	8967.0	9266.8	8724.4	8752.0	8502.9
65°	4115.7	3830.0	4029.0	4639.5	6214.9	7917.4	9044.1	9587.8	8716.7	8843.8	8264.1
67.5°	2725.8	2560.2	2785.5	3458.3	4941.2	6989.1	9004.3	9250.8	8440.0	8484.9	7377.5
70°	1407.2	1366.8	1549.1	2080.0	3322.2	5369.4	8613.3	8478.5	7878.2	7309.5	5690.4
72.5°	450.7	452.6	627.8	950.1	1791.1	3268.9	6620.6	6805.5	6304.1	5347.0	3474.3
75°	199.7	196.4	262.6	398.7	746.6	1465.6	4113.1	4312.7	3925.0	2941.5	1460.5
77.5°	143.8	139.3	168.2	233.0	369.8	496.9	1928.5	2081.3	1779.5	1019.4	334.5
80°	101.4	100.8	122.0	163.7	231.1	220.8	609.2	683.1	547.0	247.2	98.2
82.5°	57.1	59.1	84.7	115.6	140.6	110.4	171.4	188.7	184.2	131.6	43.0
85°	27.6	30.8	55.2	83.5	73.8	43.0	61.0	66.1	77.0	76.4	21.8
87.5°	0.0	0.0	22.5	37.9	19.9	6.4	18.6	21.2	20.5	24.4	5.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	456.4	456.4	456.4	456.4	456.4	456.4	456.4	456.4	456.4	456.4	456.4
2.5°	548.9	545.0	496.2	500.1	511.0	506.5	510.4	501.4	491.1	532.8	532.2
5°	694.0	665.1	649.7	635.5	638.1	609.2	625.9	633.6	632.3	656.1	662.5
7.5°	821.1	782.6	751.7	722.2	677.3	636.8	661.9	677.9	688.8	729.9	746.0
10°	880.8	849.3	837.1	779.3	747.3	722.2	692.0	670.2	679.2	668.3	679.2
12.5°	1011.7	990.6	943.7	885.3	846.8	795.4	683.1	589.3	531.6	532.2	528.3
15°	1131.1	1129.9	1059.9	963.0	851.3	704.9	529.6	411.5	356.9	341.5	336.4
17.5°	1287.1	1267.9	1140.1	997.0	796.0	545.7	360.8	281.8	276.7	285.7	281.8
20°	1386.7	1358.4	1179.9	947.5	656.1	369.1	272.2	249.7	265.1	278.0	274.8
22.5°	1486.2	1443.8	1210.1	887.2	466.7	270.3	245.9	242.0	251.7	267.7	270.3
25°	1540.7	1532.4	1269.2	774.2	319.7	236.9	236.9	235.6	238.8	250.4	248.4
27.5°	1699.3	1586.3	1224.9	604.1	247.2	217.6	220.8	219.6	208.0	219.6	220.2
30°	1798.2	1746.2	1228.1	430.1	217.6	192.6	200.9	190.7	173.3	183.0	181.0
32.5°	1997.2	1867.5	1218.5	290.2	198.4	183.6	170.8	156.0	143.2	147.0	143.8
35°	2228.9	2130.1	1088.1	233.0	184.9	162.4	141.9	127.1	113.6	116.8	116.2
37.5°	2689.8	2375.9	980.3	209.9	175.9	148.9	125.2	104.6	97.6	99.5	101.4
40°	3116.8	2786.1	779.3	199.7	160.5	132.9	103.4	88.6	84.1	85.4	87.3
42.5°	3754.9	3112.3	588.7	189.4	145.1	112.3	86.0	76.4	71.9	74.5	75.8
45°	4372.4	3389.6	439.7	180.4	132.2	96.9	72.5	66.1	61.0	62.9	65.5
47.5°	4989.4	3697.7	328.0	166.3	118.1	83.5	62.3	57.8	54.6	55.2	58.4
50°	5541.5	3841.5	258.1	148.9	106.6	72.5	56.5	52.0	50.7	51.4	53.9
52.5°	5947.2	3842.8	217.6	133.5	95.7	64.2	53.3	48.1	47.5	48.8	51.4
55°	6313.8	3740.1	188.7	120.0	86.0	58.4	50.7	46.2	46.2	47.5	50.1
57.5°	6557.1	3551.4	163.7	105.9	77.7	55.2	48.8	44.3	43.7	43.0	44.9
60°	6675.8	3293.9	138.7	93.1	70.0	53.3	47.5	39.2	38.5	37.2	38.5
62.5°	6600.7	2971.7	116.2	80.2	62.3	50.7	41.7	34.0	32.7	30.2	32.1
65°	6216.8	2580.1	98.2	68.7	53.9	43.0	35.3	28.9	25.7	22.5	21.8
67.5°	5431.7	2096.0	82.2	59.1	46.2	35.3	28.9	25.7	19.9	17.3	16.7
70°	4070.7	1430.9	68.0	50.7	38.5	30.2	24.4	23.1	18.6	16.7	15.4
72.5°	2388.1	772.3	57.1	44.3	32.7	25.0	19.9	21.2	18.6	15.4	14.1
75°	954.0	256.8	45.6	35.3	26.3	18.0	16.7	17.3	16.7	14.1	11.6
77.5°	217.6	80.9	35.3	27.6	20.5	11.6	13.5	14.8	14.8	11.6	8.3
80°	68.0	32.1	20.5	17.3	14.8	6.4	9.6	10.3	7.1	3.2	0.0
82.5°	21.8	9.0	7.1	7.1	6.4	1.3	1.9	1.3	0.0	0.0	0.0
85°	8.3	5.8	4.5	4.5	2.6	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	3.2	2.6	1.9	2.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0
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)