

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: P367383

Luminaire Tested: **MSA-SA2B-830-U-T2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367383  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2B-830-U-T2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5970 lumens  
Efficiency: N/A  
Efficacy: 70.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G2

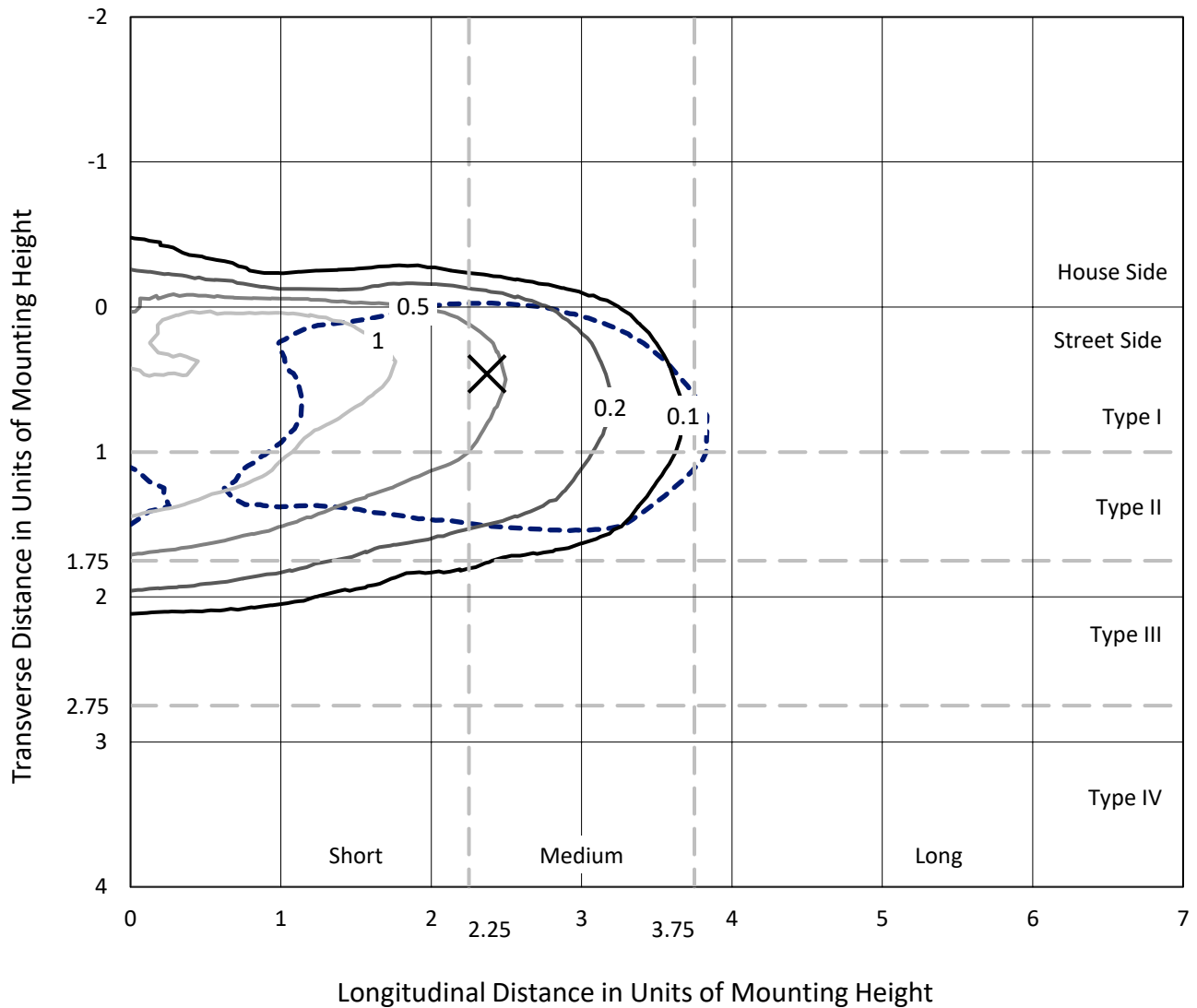
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

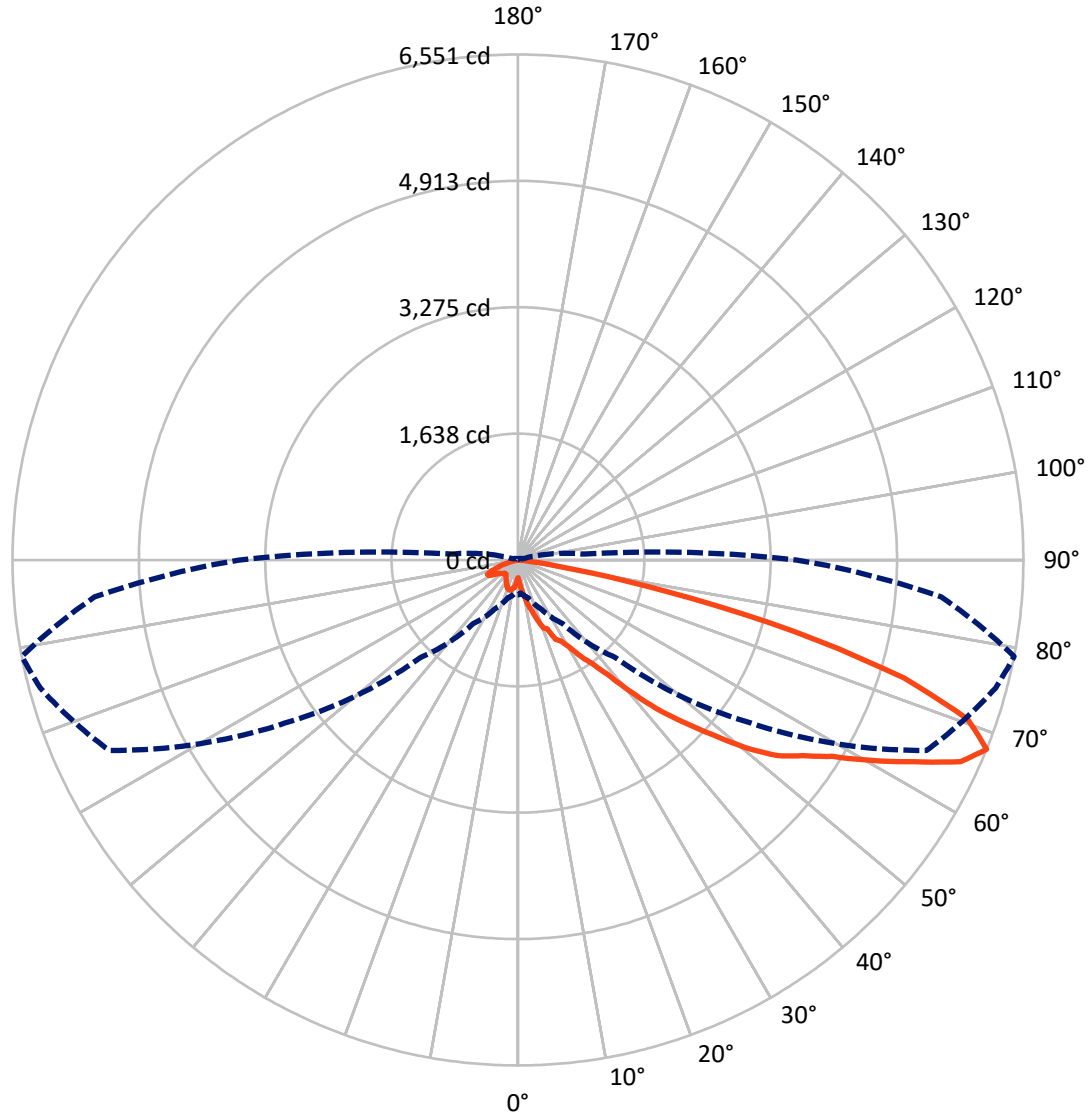
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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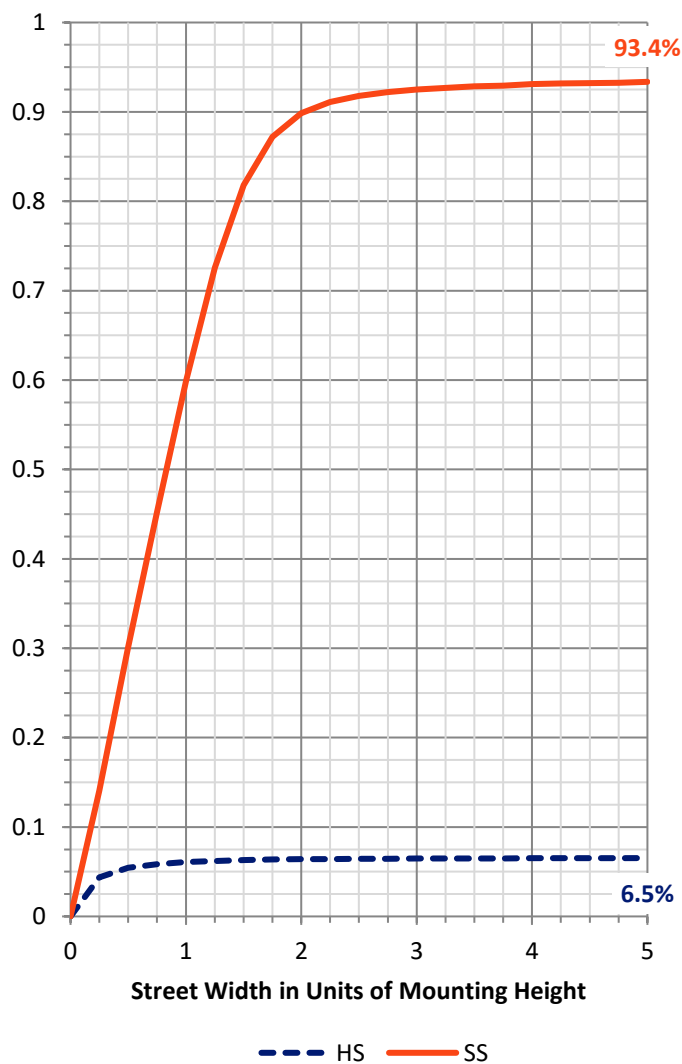
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	392.3	0.0	392.3
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	5577.7	0.0	5577.7
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	5970.0	0.0	5970.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.5	0.6
10°-20°	133.4	2.2
20°-30°	257.4	4.3
30°-40°	505.5	8.5
40°-50°	1012.7	17.0
50°-60°	1618.7	27.1
60°-70°	1628.7	27.3
70°-80°	734.7	12.3
80°-90°	45.5	0.8
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°	5970.0	100.0
0°-180°	5970.0	100.0

**Coefficient of Utilization**



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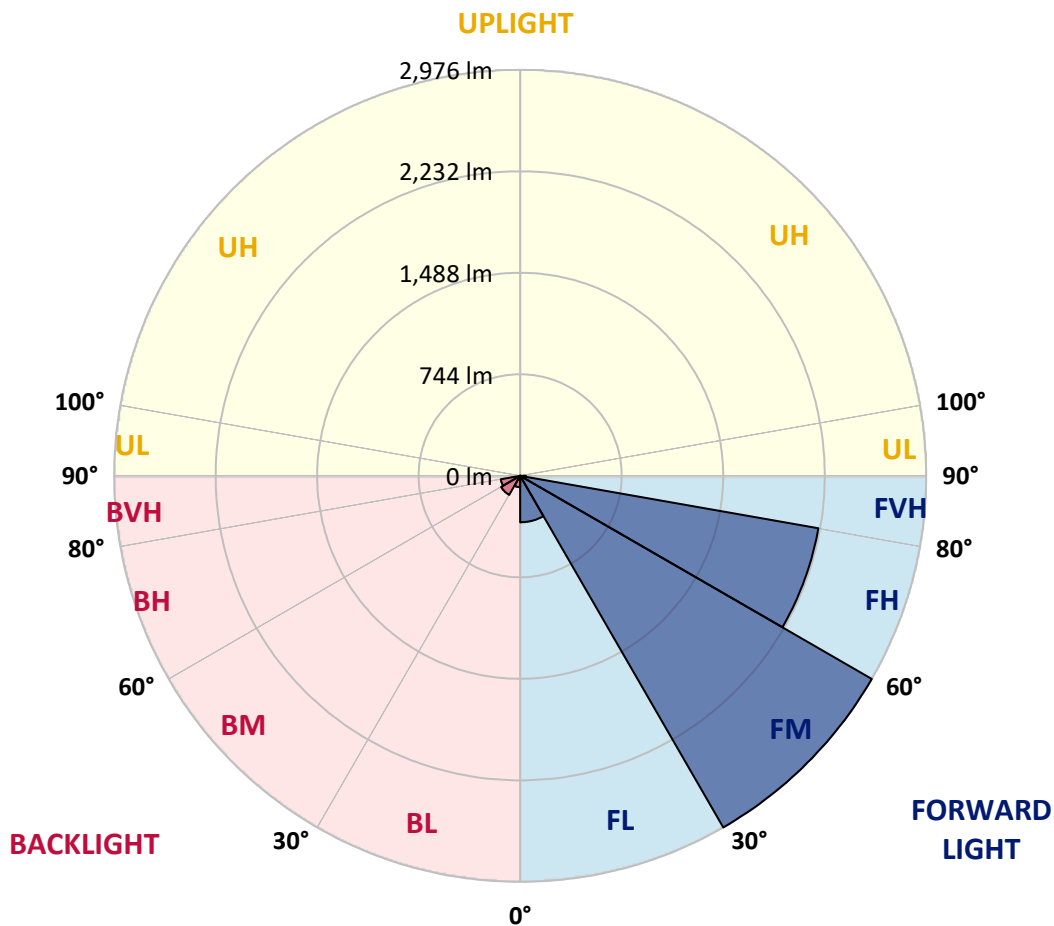
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	340.8	5.7			
FM (30°-60°)	2975.5	49.8			
FH (60°-80°)	2218.8	37.2			G2/5000
FVH (80°-90°)	42.6	0.7			G1/100
BL (0°-30°)	83.4	1.4	B0/110		
BM (30°-60°)	161.4	2.7	B0/220		
BH (60°-80°)	144.6	2.4	B1/500		G1/500
BVH (80°-90°)	2.9	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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0
2.5°	310.7	299.5	281.4	291.6	290.9	296.2	286.3	275.5	258.0	275.5	276.8
5°	447.2	426.5	413.3	410.7	396.2	382.7	379.8	368.6	360.0	344.6	358.4
7.5°	557.2	547.6	524.3	521.6	486.1	466.3	472.6	467.6	435.1	418.9	432.4
10°	603.9	587.4	590.7	587.4	572.3	577.9	565.1	550.3	524.3	497.6	464.0
12.5°	622.0	619.4	646.7	643.4	678.9	721.7	693.1	668.4	608.2	601.6	555.8
15°	660.8	677.3	673.3	687.2	709.9	782.6	781.9	787.9	724.0	689.8	623.6
17.5°	695.4	707.6	687.8	703.6	765.5	809.6	868.5	845.5	852.7	817.8	715.5
20°	680.6	694.4	674.7	665.1	774.0	857.6	936.3	919.5	962.9	941.2	800.0
22.5°	773.1	747.1	697.4	666.4	747.7	856.6	960.3	1030.4	1022.8	969.5	878.7
25°	887.2	871.5	811.9	757.3	764.5	850.7	1036.0	1139.0	1161.4	1138.7	953.4
27.5°	1041.3	1037.6	915.9	892.2	821.8	824.7	1047.8	1275.9	1224.9	1189.4	1040.6
30°	1242.3	1213.7	1069.2	1038.3	934.3	883.3	1120.3	1394.1	1356.5	1308.2	1122.6
32.5°	1458.6	1462.8	1278.5	1176.5	1092.9	1032.4	1091.6	1449.3	1519.4	1480.3	1224.9
35°	1704.1	1723.2	1497.7	1377.9	1215.4	1126.2	1214.7	1619.2	1744.9	1641.9	1362.1
37.5°	2082.2	2081.5	1818.3	1579.7	1461.5	1364.8	1419.7	1773.5	2022.0	1877.2	1608.3
40°	2414.9	2342.5	2097.7	1823.5	1639.2	1612.9	1573.1	1984.8	2317.8	2230.6	1827.2
42.5°	2663.4	2612.4	2316.5	2103.3	1874.9	1791.3	1777.1	2294.5	2754.6	2632.5	2139.5
45°	2960.6	2793.4	2575.5	2383.3	2150.7	2126.3	2093.1	2608.8	3262.7	2987.6	2411.0
47.5°	3226.8	3069.5	2863.5	2616.7	2349.4	2550.2	2422.5	2884.9	3632.3	3373.9	2710.5
50°	3450.9	3283.7	3053.0	2865.1	2750.6	2886.8	2673.9	3112.3	4031.5	3822.1	2990.5
52.5°	3565.1	3375.9	3197.5	3081.3	3151.4	3120.8	3014.9	3387.7	4371.7	4215.1	3238.7
55°	3471.3	3286.4	3211.7	3269.3	3482.2	3393.7	3402.2	3814.6	4692.9	4477.1	3454.5
57.5°	3055.3	2886.5	2919.8	3077.4	3485.5	3717.2	3843.9	4229.2	4950.6	4803.5	3787.6
60°	2311.3	2175.3	2298.4	2578.2	3157.7	3652.7	4157.2	4643.9	5318.9	5272.8	4291.8
62.5°	1411.5	1337.8	1512.2	1861.1	2516.3	3336.4	4339.8	5196.8	5712.8	5761.9	4826.6
65°	720.1	686.8	832.3	1139.0	1700.1	2740.7	4207.8	5540.4	6119.9	6300.9	5336.3
67.5°	453.5	432.1	509.8	694.7	1003.1	1787.7	3684.3	5840.8	6407.5	6550.7	5506.5
70°	314.3	300.8	367.9	476.9	632.9	962.9	2735.5	5560.4	6179.5	6186.1	5094.8
72.5°	199.4	188.9	254.4	353.1	467.0	497.3	1568.2	4363.2	5289.6	5228.7	4125.9
75°	129.3	124.1	161.6	258.7	358.7	306.7	775.0	2944.1	3792.9	3697.4	2740.4
77.5°	92.8	89.5	108.3	172.8	255.4	214.6	347.5	1754.8	2174.7	1966.0	1330.2
80°	55.9	55.6	78.3	108.3	181.7	151.4	160.6	796.7	843.1	687.5	406.4
82.5°	28.0	29.0	43.8	69.8	116.8	99.1	73.4	265.3	226.4	166.9	82.3
85°	6.6	8.2	23.0	48.0	58.6	39.5	34.9	69.4	62.2	47.1	24.0
87.5°	0.0	0.0	7.2	11.5	15.8	6.6	11.8	13.2	16.8	13.2	4.9
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°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0
2.5°	277.1	273.2	249.1	242.9	242.2	235.3	237.0	230.4	230.7	245.5	245.5
5°	353.1	330.1	307.0	286.6	272.8	253.1	245.8	242.9	240.2	246.2	249.8
7.5°	414.7	380.8	339.3	294.9	253.7	225.4	221.5	214.2	211.6	217.5	222.1
10°	442.0	399.9	342.9	278.1	239.6	216.5	197.5	187.3	185.3	185.0	186.6
12.5°	499.9	447.6	346.9	271.8	230.0	204.7	183.0	165.9	150.1	151.7	150.1
15°	546.3	484.4	346.9	256.7	207.0	181.7	143.5	134.9	132.6	136.2	133.3
17.5°	616.4	521.0	329.4	229.7	187.3	141.2	126.7	126.0	130.7	135.9	132.6
20°	658.5	525.9	300.1	198.8	153.7	122.4	117.2	111.9	118.5	122.8	121.1
22.5°	702.3	526.2	270.8	182.3	123.7	111.6	103.0	98.7	99.7	103.7	104.3
25°	721.1	513.4	243.5	160.6	112.2	99.7	90.8	86.2	84.6	86.6	85.9
27.5°	772.1	488.7	213.9	136.9	106.6	88.5	80.3	74.7	69.8	73.1	73.7
30°	779.3	480.8	197.8	121.8	99.4	78.3	71.1	65.2	61.5	66.1	66.1
32.5°	802.3	437.4	189.6	115.5	91.8	72.4	62.5	58.3	57.6	60.6	60.9
35°	837.9	418.3	177.4	110.6	84.9	65.5	56.3	54.3	53.6	55.9	55.9
37.5°	958.3	394.6	163.9	106.3	79.0	61.9	54.6	51.3	51.7	53.6	55.0
40°	1038.3	397.6	143.8	101.0	72.1	58.6	51.3	49.0	48.7	49.7	50.7
42.5°	1186.7	399.9	134.9	95.4	66.8	54.6	48.0	46.4	45.1	46.1	47.1
45°	1352.6	412.0	130.3	90.8	63.8	52.3	45.1	44.1	41.1	41.8	43.1
47.5°	1512.5	456.5	124.7	84.2	61.2	51.0	42.1	39.8	37.8	37.5	38.8
50°	1694.2	499.6	118.5	77.0	58.6	49.0	39.2	35.5	34.2	34.2	35.2
52.5°	1856.8	540.7	112.6	72.1	56.6	45.4	36.5	32.9	31.9	31.9	33.2
55°	2027.9	583.8	107.3	67.5	54.0	41.8	34.2	30.9	30.6	29.9	30.9
57.5°	2330.0	677.9	100.7	63.5	50.4	38.8	32.3	29.0	28.3	27.3	28.3
60°	2770.0	822.4	92.1	59.6	46.1	36.9	30.6	26.7	25.7	24.0	24.4
62.5°	3200.2	939.2	82.3	54.6	42.1	34.9	28.0	24.0	22.4	20.4	20.7
65°	3568.7	985.3	71.7	48.7	38.2	30.3	24.4	21.1	18.8	16.1	15.8
67.5°	3612.2	870.1	61.5	43.1	34.2	25.7	20.7	18.8	15.1	12.8	12.2
70°	3250.8	648.3	51.3	38.2	29.6	21.7	17.8	16.5	14.2	12.2	11.2
72.5°	2588.7	478.5	43.1	33.9	26.0	18.4	15.1	15.5	14.2	11.8	10.5
75°	1712.0	273.8	35.2	28.3	21.7	14.8	13.8	13.8	13.5	11.2	9.9
77.5°	823.7	118.1	27.0	22.4	17.4	11.2	12.5	12.5	12.8	10.2	8.2
80°	233.7	35.5	16.8	15.1	12.8	7.6	9.9	9.5	8.6	5.9	3.6
82.5°	41.8	13.8	7.6	7.9	7.2	3.0	5.6	5.3	4.3	2.3	0.3
85°	11.5	5.3	4.3	4.6	3.6	1.0	2.3	3.0	2.3	1.3	0.0
87.5°	3.0	2.3	3.0	3.3	2.6	0.3	1.0	0.3	1.0	0.3	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)