

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: P367121

Luminaire Tested: **MSA-SA1D-830-U-T3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367121  
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-SA1D-830-U-T3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) 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: 4024 lumens  
Efficiency: N/A  
Efficacy: 60.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B0 - U0 - G1

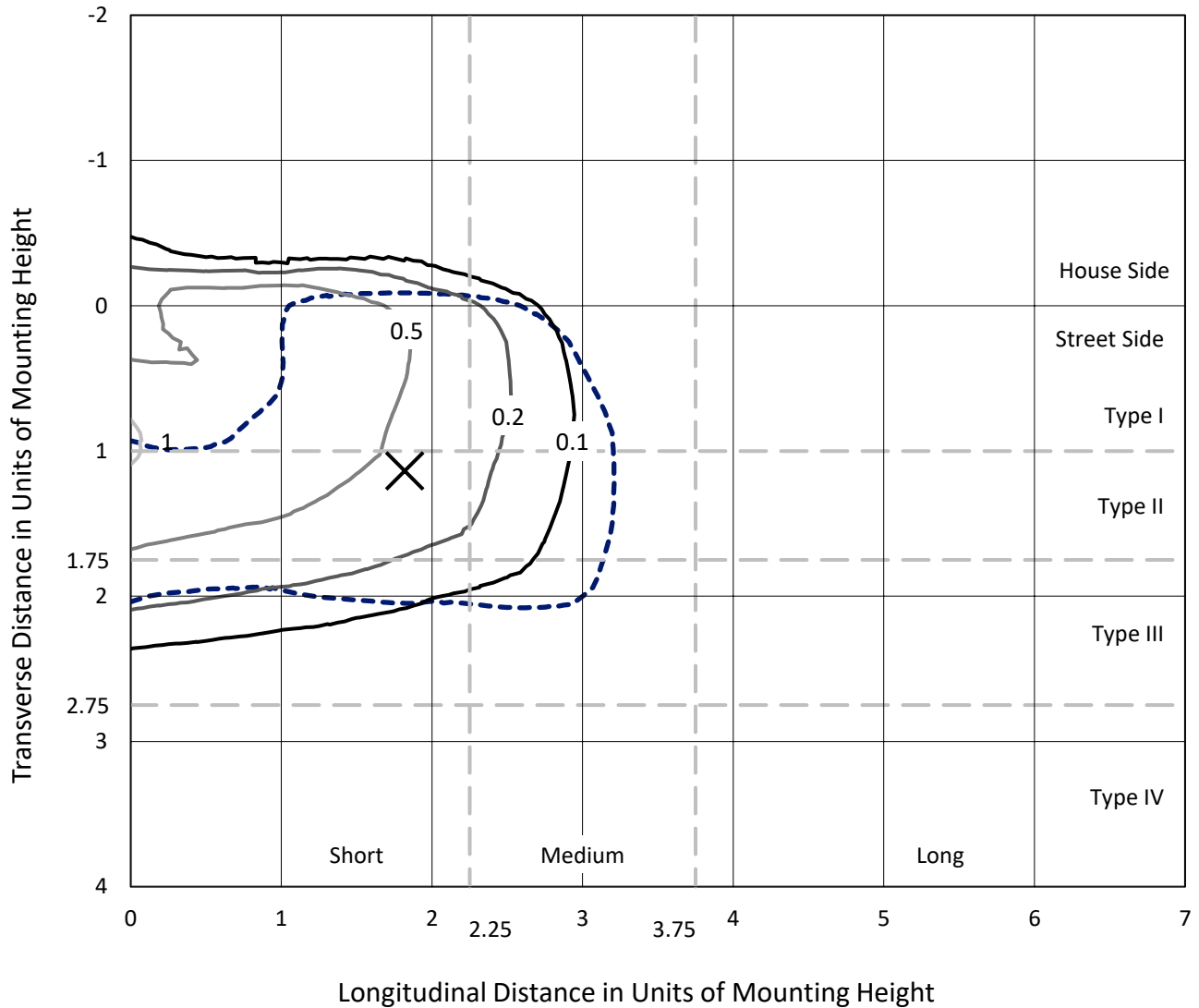
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

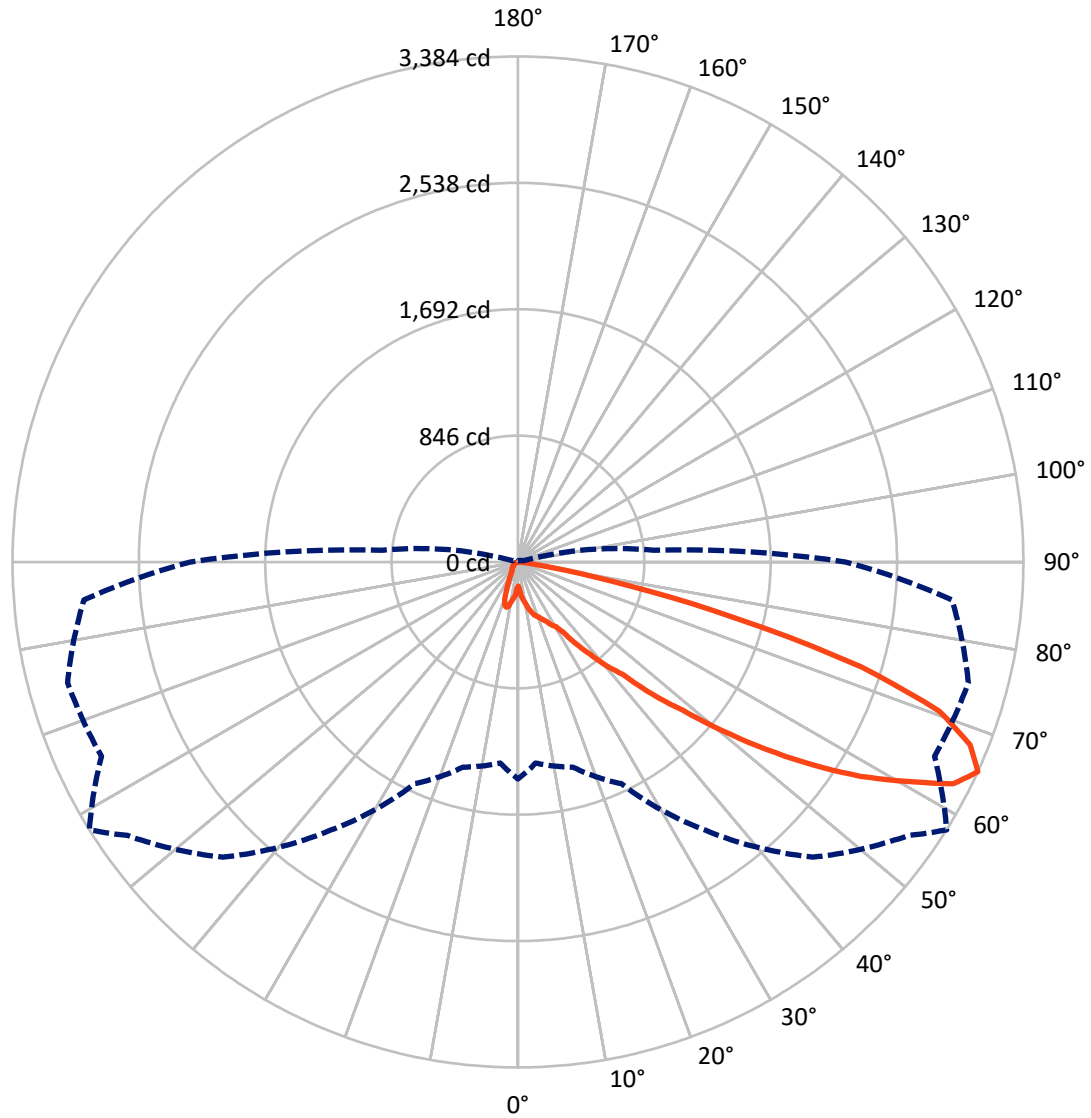
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 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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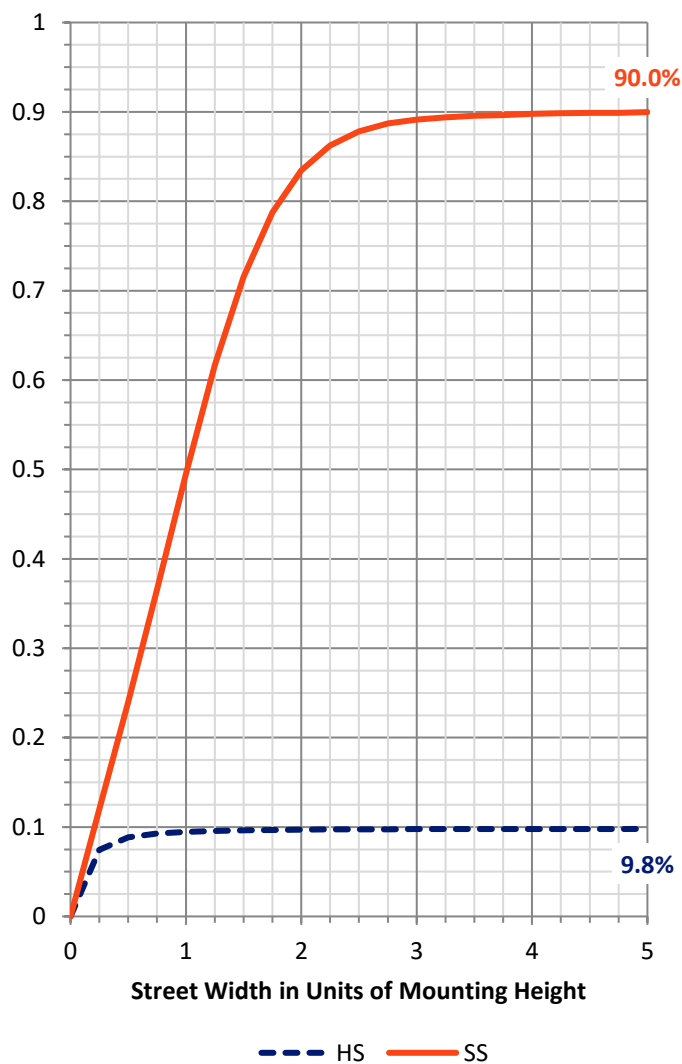
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	397.1	0.0	397.1
	% Fixture	9.9	0.0	9.9
<b>Street Side</b>	Lumens	3626.9	0.0	3626.9
	% Fixture	90.1	0.0	90.1
<b>Total</b>	Lumens	4024.0	0.0	4024.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	22.6	0.6
10°-20°	82.6	2.1
20°-30°	159.9	4.0
30°-40°	319.0	7.9
40°-50°	652.2	16.2
50°-60°	1156.7	28.7
60°-70°	1219.5	30.3
70°-80°	395.4	9.8
80°-90°	16.2	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°	4024.0	100.0
0°-180°	4024.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P367121

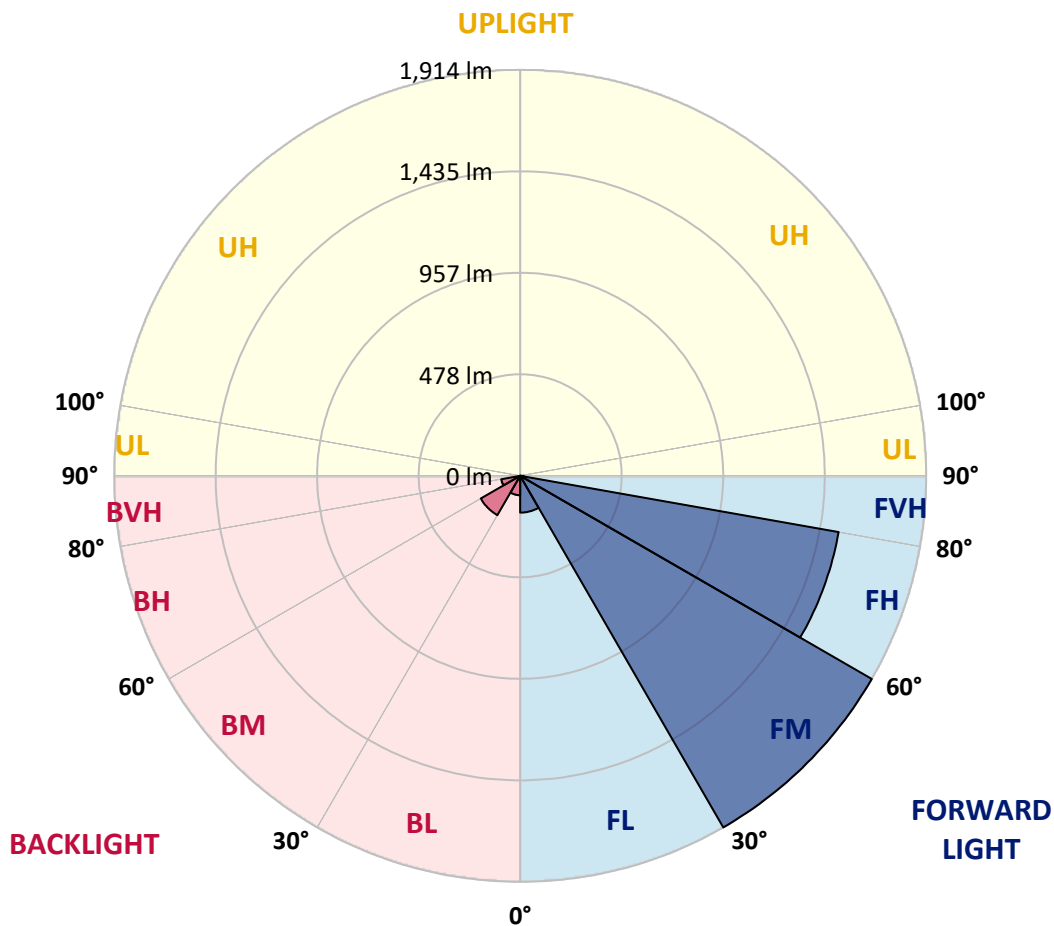
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	173.6	4.3			
FM (30°-60°)	1913.6	47.6			
FH (60°-80°)	1524.2	37.9			G1/1800
FVH (80°-90°)	15.5	0.4			G1/100
BL (0°-30°)	91.5	2.3	B0/110		
BM (30°-60°)	214.2	5.3	B0/220		
BH (60°-80°)	90.6	2.3	B0/110		G0/110
BVH (80°-90°)	0.7	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	161.1	161.1	161.1	161.1	161.1	161.1	161.1	161.1	161.1	161.1	161.1
2.5°	196.7	190.8	181.5	183.1	184.9	188.5	185.6	182.8	179.9	176.0	190.8
5°	237.4	227.7	226.8	224.8	223.2	222.9	226.6	225.4	227.0	234.3	241.7
7.5°	252.4	248.3	240.6	243.8	238.8	234.9	251.0	256.2	266.2	269.6	289.1
10°	250.8	244.9	248.1	249.7	253.1	267.1	277.3	283.0	291.6	310.2	306.3
12.5°	258.1	263.3	266.7	266.9	284.3	310.2	317.4	322.2	337.6	344.8	363.9
15°	282.3	290.9	285.5	287.7	293.4	324.9	341.9	352.3	374.1	397.6	402.4
17.5°	317.0	322.4	311.1	302.9	318.5	335.8	366.6	377.5	391.3	446.3	456.5
20°	360.7	370.0	345.5	313.1	333.7	354.1	387.7	392.9	407.6	479.4	495.5
22.5°	462.9	449.0	411.7	361.1	355.0	364.1	396.0	416.4	441.3	498.0	535.4
25°	563.7	558.9	503.9	447.5	406.7	386.3	428.7	440.0	480.8	542.2	562.8
27.5°	675.8	685.4	593.4	559.2	479.2	412.6	449.0	477.4	525.6	558.3	607.9
30°	823.8	808.6	700.8	666.6	575.2	484.8	501.8	503.7	574.6	611.3	658.4
32.5°	939.8	949.5	814.0	761.5	688.5	596.1	541.5	565.1	615.8	697.6	742.2
35°	1065.3	1064.4	932.3	861.6	766.2	686.9	659.1	676.3	740.0	832.6	844.4
37.5°	1252.9	1236.8	1080.9	977.4	896.3	828.5	807.2	784.4	850.1	938.4	982.6
40°	1429.8	1374.3	1230.2	1107.4	1003.7	976.0	899.0	913.1	932.5	1049.2	1171.3
42.5°	1608.6	1574.2	1381.6	1278.7	1151.2	1085.5	1035.2	1028.6	1121.3	1259.5	1385.7
45°	1844.5	1739.1	1585.0	1494.6	1346.9	1281.0	1240.4	1264.7	1348.1	1549.9	1634.0
47.5°	2042.5	1945.5	1813.2	1675.9	1520.9	1595.0	1518.9	1480.6	1595.0	1803.7	1915.4
50°	2212.6	2104.6	1970.7	1868.9	1843.8	1914.9	1760.9	1774.9	1849.2	2094.4	2157.3
52.5°	2336.3	2222.6	2105.7	2056.5	2159.6	2195.4	2118.1	2087.1	2154.6	2342.2	2372.8
55°	2429.4	2313.0	2221.7	2289.4	2488.8	2477.0	2504.2	2398.2	2462.7	2600.7	2586.2
57.5°	2435.1	2297.1	2243.7	2352.6	2626.3	2808.7	2888.2	2707.9	2744.6	2802.8	2770.2
60°	2257.0	2119.7	2115.4	2270.2	2666.2	2894.6	3068.6	2980.7	2931.5	2974.8	2912.9
62.5°	1902.2	1806.2	1851.0	2022.1	2517.8	2847.2	3164.6	3270.5	3079.0	3088.7	3000.8
65°	1452.5	1351.7	1421.9	1637.4	2193.4	2794.2	3191.8	3383.7	3076.3	3121.1	2916.6
67.5°	962.0	903.5	983.1	1220.5	1743.9	2466.6	3177.8	3264.8	2978.6	2994.5	2603.7
70°	496.6	482.4	546.7	734.1	1172.5	1895.0	3039.8	2992.2	2780.4	2579.7	2008.3
72.5°	159.0	159.7	221.6	335.3	632.1	1153.7	2336.6	2401.8	2224.9	1887.1	1226.2
75°	70.5	69.3	92.7	140.7	263.5	517.2	1451.6	1522.1	1385.2	1038.1	515.4
77.5°	50.8	49.2	59.4	82.2	130.5	175.4	680.6	734.5	628.0	359.8	118.0
80°	35.8	35.6	43.0	57.8	81.6	77.9	215.0	241.1	193.0	87.2	34.7
82.5°	20.2	20.8	29.9	40.8	49.6	39.0	60.5	66.6	65.0	46.4	15.2
85°	9.7	10.9	19.5	29.5	26.1	15.2	21.5	23.3	27.2	27.0	7.7
87.5°	0.0	0.0	7.9	13.4	7.0	2.3	6.6	7.5	7.3	8.6	1.8
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°	161.1	161.1	161.1	161.1	161.1	161.1	161.1	161.1	161.1	161.1	161.1
2.5°	193.7	192.4	175.1	176.5	180.3	178.8	180.1	176.9	173.3	188.0	187.8
5°	244.9	234.7	229.3	224.3	225.2	215.0	220.9	223.6	223.2	231.5	233.8
7.5°	289.8	276.2	265.3	254.9	239.0	224.8	233.6	239.3	243.1	257.6	263.3
10°	310.8	299.7	295.4	275.0	263.7	254.9	244.2	236.5	239.7	235.9	239.7
12.5°	357.1	349.6	333.0	312.4	298.8	280.7	241.1	208.0	187.6	187.8	186.5
15°	399.2	398.8	374.1	339.8	300.4	248.8	186.9	145.2	126.0	120.5	118.7
17.5°	454.3	447.5	402.4	351.9	280.9	192.6	127.3	99.5	97.6	100.8	99.5
20°	489.4	479.4	416.4	334.4	231.5	130.3	96.1	88.1	93.6	98.1	97.0
22.5°	524.5	509.5	427.1	313.1	164.7	95.4	86.8	85.4	88.8	94.5	95.4
25°	543.8	540.8	447.9	273.2	112.8	83.6	83.6	83.1	84.3	88.4	87.7
27.5°	599.7	559.8	432.3	213.2	87.2	76.8	77.9	77.5	73.4	77.5	77.7
30°	634.6	616.3	433.4	151.8	76.8	68.0	70.9	67.3	61.2	64.6	63.9
32.5°	704.8	659.1	430.0	102.4	70.0	64.8	60.3	55.1	50.5	51.9	50.8
35°	786.6	751.7	384.0	82.2	65.3	57.3	50.1	44.9	40.1	41.2	41.0
37.5°	949.3	838.5	346.0	74.1	62.1	52.6	44.2	36.9	34.4	35.1	35.8
40°	1100.0	983.3	275.0	70.5	56.6	46.9	36.5	31.3	29.7	30.1	30.8
42.5°	1325.2	1098.4	207.8	66.8	51.2	39.6	30.4	27.0	25.4	26.3	26.7
45°	1543.1	1196.3	155.2	63.7	46.7	34.2	25.6	23.3	21.5	22.2	23.1
47.5°	1760.9	1305.0	115.8	58.7	41.7	29.5	22.0	20.4	19.3	19.5	20.6
50°	1955.7	1355.8	91.1	52.6	37.6	25.6	19.9	18.4	17.9	18.1	19.0
52.5°	2098.9	1356.2	76.8	47.1	33.8	22.7	18.8	17.0	16.8	17.2	18.1
55°	2228.3	1320.0	66.6	42.4	30.4	20.6	17.9	16.3	16.3	16.8	17.7
57.5°	2314.1	1253.4	57.8	37.4	27.4	19.5	17.2	15.6	15.4	15.2	15.9
60°	2356.0	1162.5	48.9	32.9	24.7	18.8	16.8	13.8	13.6	13.1	13.6
62.5°	2329.5	1048.8	41.0	28.3	22.0	17.9	14.7	12.0	11.6	10.6	11.3
65°	2194.0	910.6	34.7	24.2	19.0	15.2	12.5	10.2	9.1	7.9	7.7
67.5°	1917.0	739.7	29.0	20.8	16.3	12.5	10.2	9.1	7.0	6.1	5.9
70°	1436.6	505.0	24.0	17.9	13.6	10.6	8.6	8.2	6.6	5.9	5.4
72.5°	842.8	272.6	20.2	15.6	11.6	8.8	7.0	7.5	6.6	5.4	5.0
75°	336.7	90.6	16.1	12.5	9.3	6.3	5.9	6.1	5.9	5.0	4.1
77.5°	76.8	28.5	12.5	9.7	7.3	4.1	4.8	5.2	5.2	4.1	2.9
80°	24.0	11.3	7.3	6.1	5.2	2.3	3.4	3.6	2.5	1.1	0.0
82.5°	7.7	3.2	2.5	2.5	2.3	0.5	0.7	0.5	0.0	0.0	0.0
85°	2.9	2.0	1.6	1.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	1.1	0.9	0.7	0.9	0.5	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)