

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: P367119

Luminaire Tested: **MSA-SA1D-830-U-T2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367119  
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-SA1D-830-U-T2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) 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: 4110 lumens  
Efficiency: N/A  
Efficacy: 61.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B0 - U0 - G1

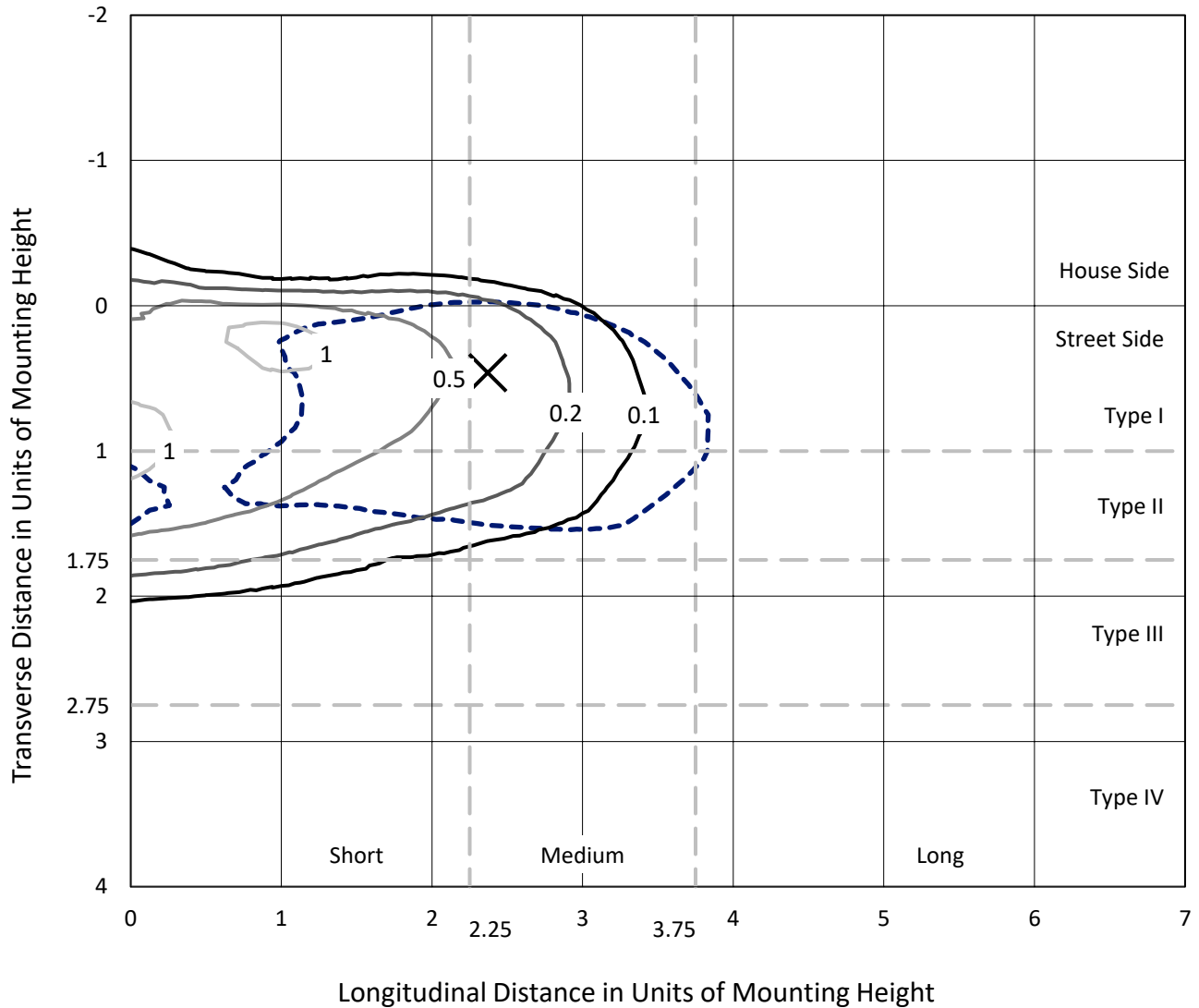
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

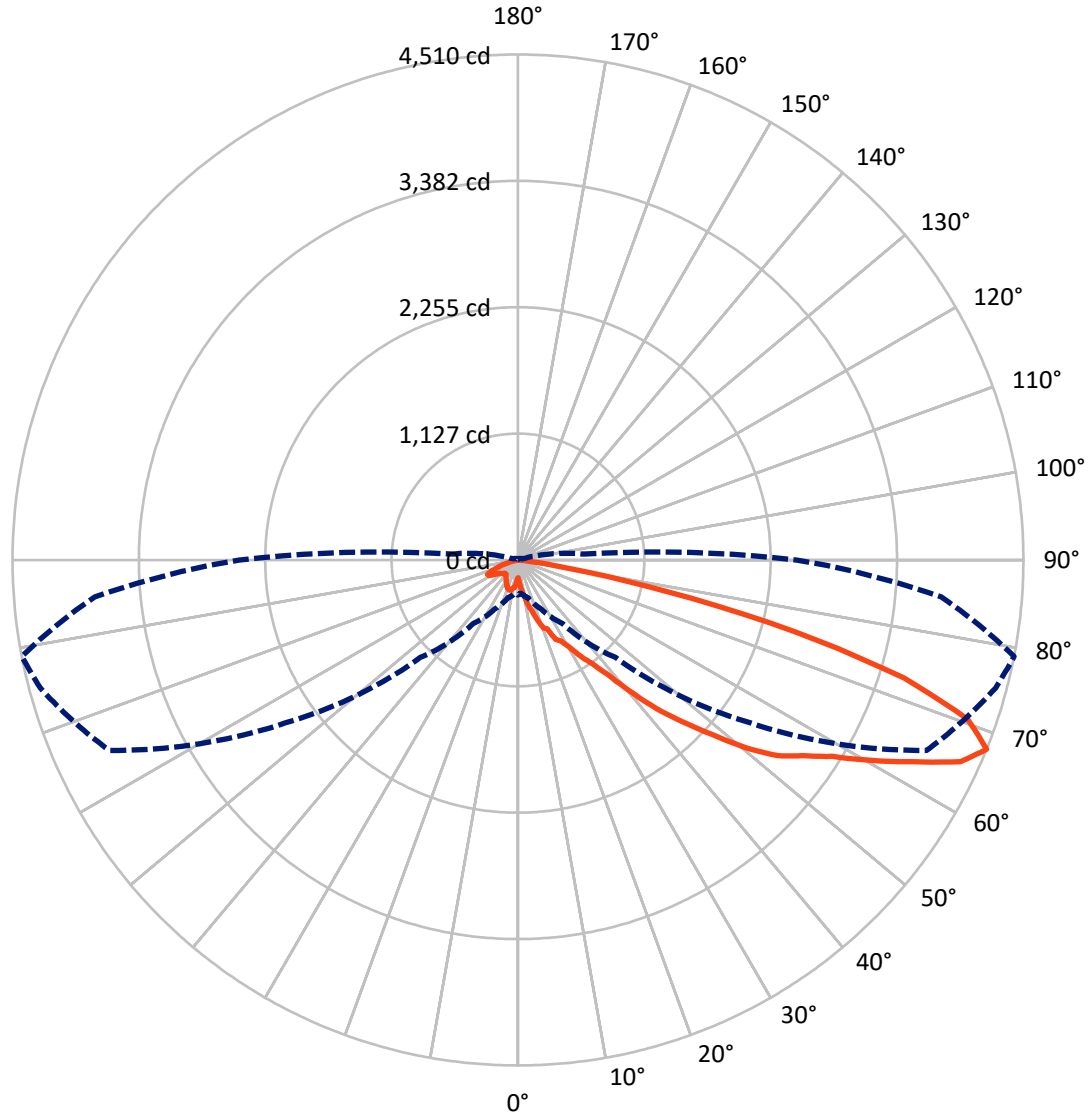
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 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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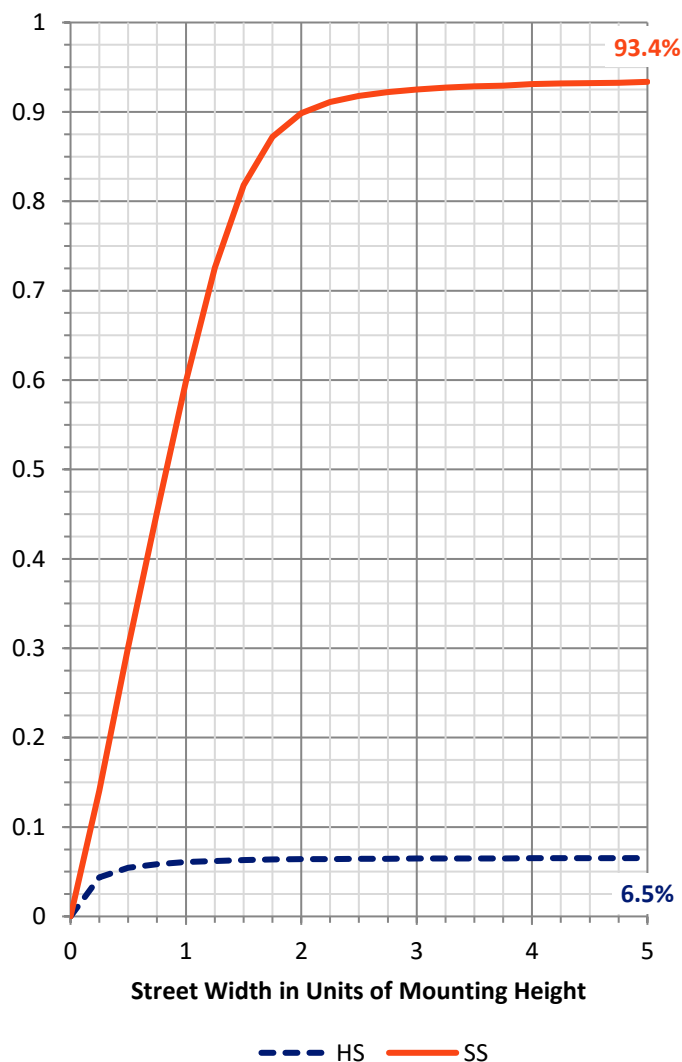
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	270.0	0.0	270.0
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	3839.9	0.0	3839.9
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	4110.0	0.0	4110.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	23.0	0.6
10°-20°	91.8	2.2
20°-30°	177.2	4.3
30°-40°	348.0	8.5
40°-50°	697.2	17.0
50°-60°	1114.4	27.1
60°-70°	1121.2	27.3
70°-80°	505.8	12.3
80°-90°	31.3	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°	4110.0	100.0
0°-180°	4110.0	100.0

**Coefficient of Utilization**



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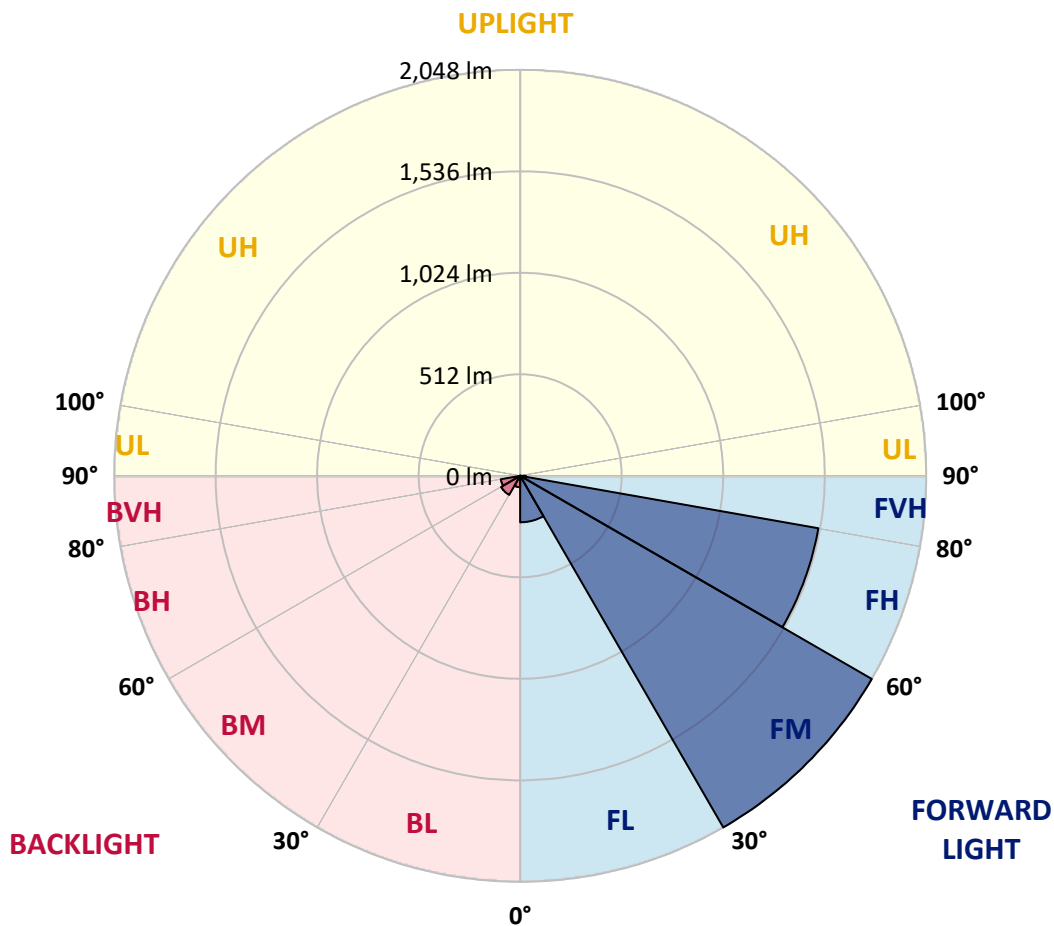
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	234.6	5.7			
FM (30°-60°)	2048.5	49.8			
FH (60°-80°)	1527.5	37.2			G1/1800
FVH (80°-90°)	29.3	0.7			G1/100
BL (0°-30°)	57.4	1.4	B0/110		
BM (30°-60°)	111.1	2.7	B0/220		
BH (60°-80°)	99.5	2.4	B0/110		G0/110
BVH (80°-90°)	2.0	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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4
2.5°	213.9	206.2	193.7	200.7	200.3	203.9	197.1	189.6	177.6	189.6	190.5
5°	307.9	293.6	284.6	282.8	272.8	263.5	261.5	253.8	247.9	237.2	246.7
7.5°	383.6	377.0	360.9	359.1	334.6	321.0	325.3	321.9	299.5	288.4	297.7
10°	415.7	404.4	406.7	404.4	394.0	397.8	389.0	378.8	360.9	342.6	319.5
12.5°	428.2	426.4	445.2	442.9	467.4	496.9	477.1	460.2	418.7	414.2	382.7
15°	454.9	466.3	463.6	473.1	488.7	538.8	538.3	542.4	498.4	474.9	429.3
17.5°	478.7	487.1	473.5	484.4	527.0	557.4	597.9	582.0	587.0	563.0	492.6
20°	468.5	478.1	464.5	457.9	532.9	590.4	644.6	633.0	662.9	648.0	550.8
22.5°	532.2	514.3	480.1	458.8	514.8	589.7	661.1	709.4	704.2	667.5	604.9
25°	610.8	599.9	558.9	521.3	526.3	585.7	713.2	784.1	799.5	783.9	656.4
27.5°	716.9	714.4	630.5	614.2	565.7	567.8	721.4	878.4	843.3	818.8	716.4
30°	855.3	835.6	736.1	714.8	643.2	608.1	771.2	959.7	933.9	900.6	772.8
32.5°	1004.1	1007.1	880.2	810.0	752.4	710.7	751.5	997.8	1046.1	1019.1	843.3
35°	1173.2	1186.3	1031.1	948.6	836.7	775.3	836.3	1114.7	1201.2	1130.3	937.8
37.5°	1433.5	1433.0	1251.8	1087.5	1006.2	939.6	977.4	1221.0	1392.0	1292.3	1107.2
40°	1662.5	1612.7	1444.1	1255.4	1128.5	1110.4	1083.0	1366.4	1595.7	1535.7	1257.9
42.5°	1833.6	1798.5	1594.8	1448.0	1290.7	1233.2	1223.5	1579.6	1896.3	1812.3	1472.9
45°	2038.2	1923.1	1773.1	1640.8	1480.6	1463.8	1441.0	1796.0	2246.2	2056.8	1659.8
47.5°	2221.5	2113.2	1971.3	1801.4	1617.4	1755.7	1667.7	1986.1	2500.6	2322.7	1866.0
50°	2375.8	2260.7	2101.8	1972.5	1893.6	1987.4	1840.8	2142.6	2775.4	2631.3	2058.8
52.5°	2454.4	2324.1	2201.3	2121.3	2169.6	2148.5	2075.6	2332.3	3009.7	2901.8	2229.6
55°	2389.8	2262.5	2211.0	2250.7	2397.3	2336.3	2342.2	2626.1	3230.8	3082.2	2378.3
57.5°	2103.4	1987.2	2010.1	2118.6	2399.6	2559.1	2646.3	2911.6	3408.2	3306.9	2607.5
60°	1591.2	1497.6	1582.3	1774.9	2173.9	2514.6	2862.0	3197.1	3661.7	3630.0	2954.6
62.5°	971.7	921.0	1041.1	1281.2	1732.3	2296.9	2987.7	3577.7	3932.9	3966.7	3322.8
65°	495.7	472.8	573.0	784.1	1170.4	1886.8	2896.9	3814.2	4213.2	4337.8	3673.8
67.5°	312.2	297.5	350.9	478.3	690.6	1230.7	2536.4	4021.1	4411.2	4509.8	3790.9
70°	216.4	207.1	253.3	328.3	435.7	662.9	1883.2	3828.0	4254.2	4258.7	3507.5
72.5°	137.3	130.0	175.1	243.1	321.5	342.3	1079.6	3003.8	3641.6	3599.7	2840.4
75°	89.0	85.4	111.2	178.1	247.0	211.2	533.6	2026.9	2611.2	2545.5	1886.6
77.5°	63.9	61.6	74.5	118.9	175.8	147.7	239.3	1208.0	1497.1	1353.5	915.8
80°	38.5	38.3	53.9	74.5	125.1	104.2	110.6	548.5	580.5	473.3	279.8
82.5°	19.3	19.9	30.1	48.0	80.4	68.2	50.5	182.6	155.9	114.9	56.6
85°	4.5	5.7	15.9	33.1	40.3	27.2	24.0	47.8	42.8	32.4	16.5
87.5°	0.0	0.0	5.0	7.9	10.9	4.5	8.2	9.1	11.6	9.1	3.4
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°	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4
2.5°	190.8	188.0	171.5	167.2	166.8	162.0	163.1	158.6	158.8	169.0	169.0
5°	243.1	227.2	211.4	197.3	187.8	174.2	169.2	167.2	165.4	169.5	172.0
7.5°	285.5	262.1	233.6	203.0	174.7	155.2	152.5	147.5	145.7	149.8	152.9
10°	304.3	275.3	236.1	191.4	164.9	149.1	135.9	128.9	127.6	127.3	128.5
12.5°	344.2	308.1	238.8	187.1	158.4	140.9	126.0	114.2	103.3	104.4	103.3
15°	376.1	333.5	238.8	176.7	142.5	125.1	98.8	92.9	91.3	93.8	91.8
17.5°	424.4	358.7	226.8	158.1	128.9	97.2	87.2	86.8	89.9	93.6	91.3
20°	453.4	362.1	206.6	136.8	105.8	84.3	80.7	77.0	81.6	84.5	83.4
22.5°	483.5	362.3	186.5	125.5	85.2	76.8	70.9	68.0	68.6	71.4	71.8
25°	496.4	353.4	167.7	110.6	77.3	68.6	62.5	59.4	58.2	59.6	59.1
27.5°	531.5	336.4	147.3	94.3	73.4	60.9	55.3	51.4	48.0	50.3	50.8
30°	536.5	331.0	136.2	83.8	68.4	53.9	48.9	44.9	42.4	45.5	45.5
32.5°	552.4	301.1	130.5	79.5	63.2	49.8	43.0	40.1	39.6	41.7	41.9
35°	576.8	288.0	122.1	76.1	58.5	45.1	38.7	37.4	36.9	38.5	38.5
37.5°	659.8	271.7	112.8	73.2	54.4	42.6	37.6	35.3	35.6	36.9	37.8
40°	714.8	273.7	99.0	69.6	49.6	40.3	35.3	33.8	33.5	34.2	34.9
42.5°	817.0	275.3	92.9	65.7	46.0	37.6	33.1	31.9	31.0	31.7	32.4
45°	931.2	283.7	89.7	62.5	44.0	36.0	31.0	30.4	28.3	28.8	29.7
47.5°	1041.3	314.2	85.9	58.0	42.1	35.1	29.0	27.4	26.1	25.8	26.7
50°	1166.4	343.9	81.6	53.0	40.3	33.8	27.0	24.5	23.6	23.6	24.2
52.5°	1278.3	372.2	77.5	49.6	39.0	31.3	25.1	22.7	22.0	22.0	22.9
55°	1396.1	401.9	73.9	46.4	37.2	28.8	23.6	21.3	21.1	20.6	21.3
57.5°	1604.1	466.7	69.3	43.7	34.7	26.7	22.2	19.9	19.5	18.8	19.5
60°	1907.0	566.2	63.4	41.0	31.7	25.4	21.1	18.4	17.7	16.5	16.8
62.5°	2203.1	646.6	56.6	37.6	29.0	24.0	19.3	16.5	15.4	14.0	14.3
65°	2456.9	678.3	49.4	33.5	26.3	20.8	16.8	14.5	12.9	11.1	10.9
67.5°	2486.8	599.0	42.4	29.7	23.6	17.7	14.3	12.9	10.4	8.8	8.4
70°	2238.0	446.3	35.3	26.3	20.4	15.0	12.2	11.3	9.7	8.4	7.7
72.5°	1782.2	329.4	29.7	23.3	17.9	12.7	10.4	10.6	9.7	8.2	7.3
75°	1178.6	188.5	24.2	19.5	15.0	10.2	9.5	9.5	9.3	7.7	6.8
77.5°	567.1	81.3	18.6	15.4	12.0	7.7	8.6	8.6	8.8	7.0	5.7
80°	160.9	24.5	11.6	10.4	8.8	5.2	6.8	6.6	5.9	4.1	2.5
82.5°	28.8	9.5	5.2	5.4	5.0	2.0	3.9	3.6	2.9	1.6	0.2
85°	7.9	3.6	2.9	3.2	2.5	0.7	1.6	2.0	1.6	0.9	0.0
87.5°	2.0	1.6	2.0	2.3	1.8	0.2	0.7	0.2	0.7	0.2	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)