

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: P366987

Luminaire Tested: **MSA-SA1C-830-U-T2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366987  
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-SA1C-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: 3759 lumens  
Efficiency: N/A  
Efficacy: 63.7 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

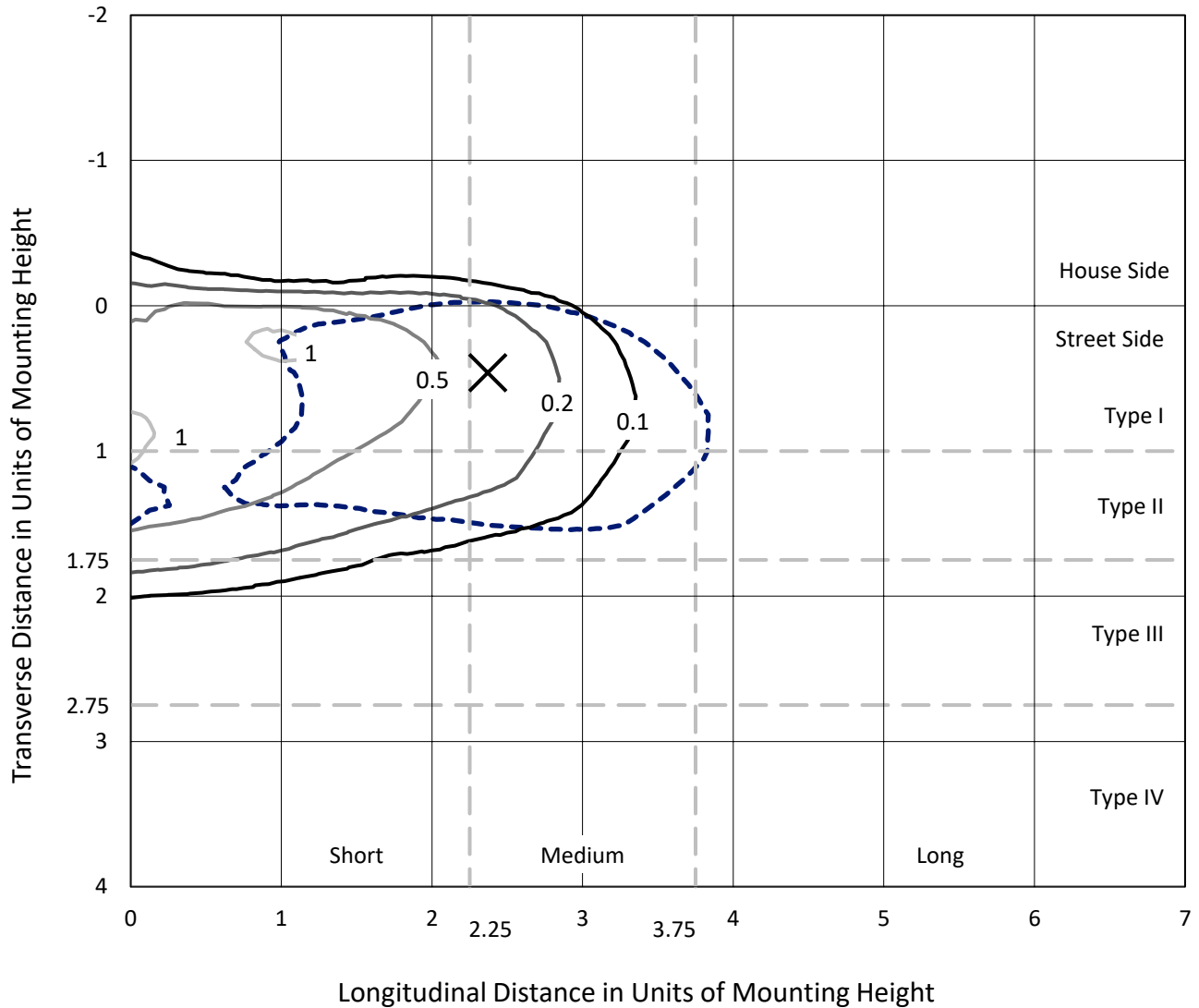
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

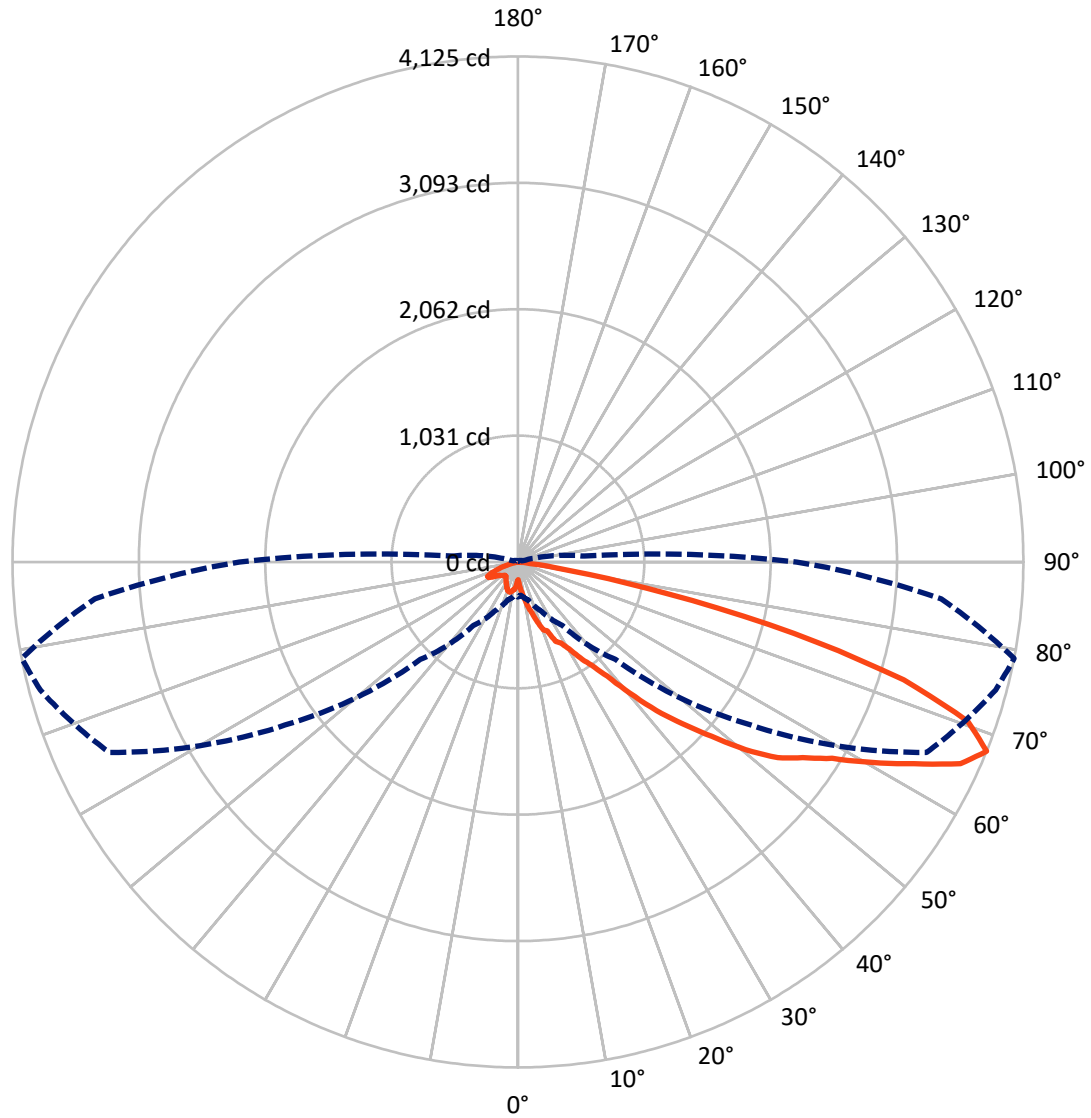
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 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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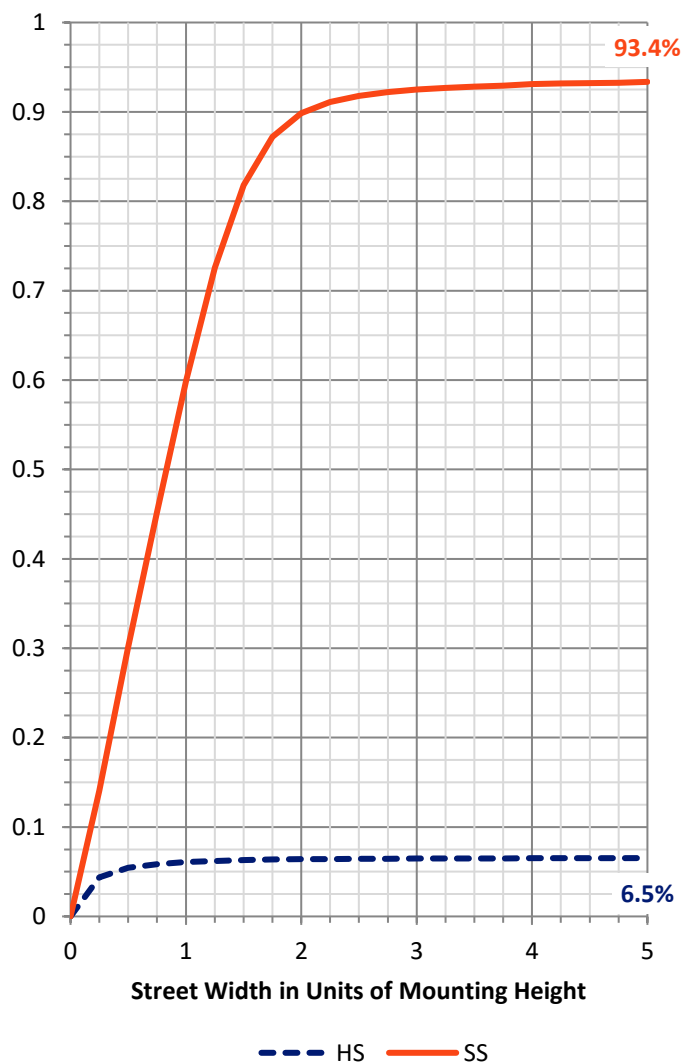
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	247.0	0.0	247.0
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	3512.0	0.0	3512.0
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	3759.0	0.0	3759.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	21.1	0.6
10°-20°	84.0	2.2
20°-30°	162.0	4.3
30°-40°	318.3	8.5
40°-50°	637.7	17.0
50°-60°	1019.2	27.1
60°-70°	1025.5	27.3
70°-80°	462.6	12.3
80°-90°	28.6	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°	3759.0	100.0
0°-180°	3759.0	100.0

**Coefficient of Utilization**



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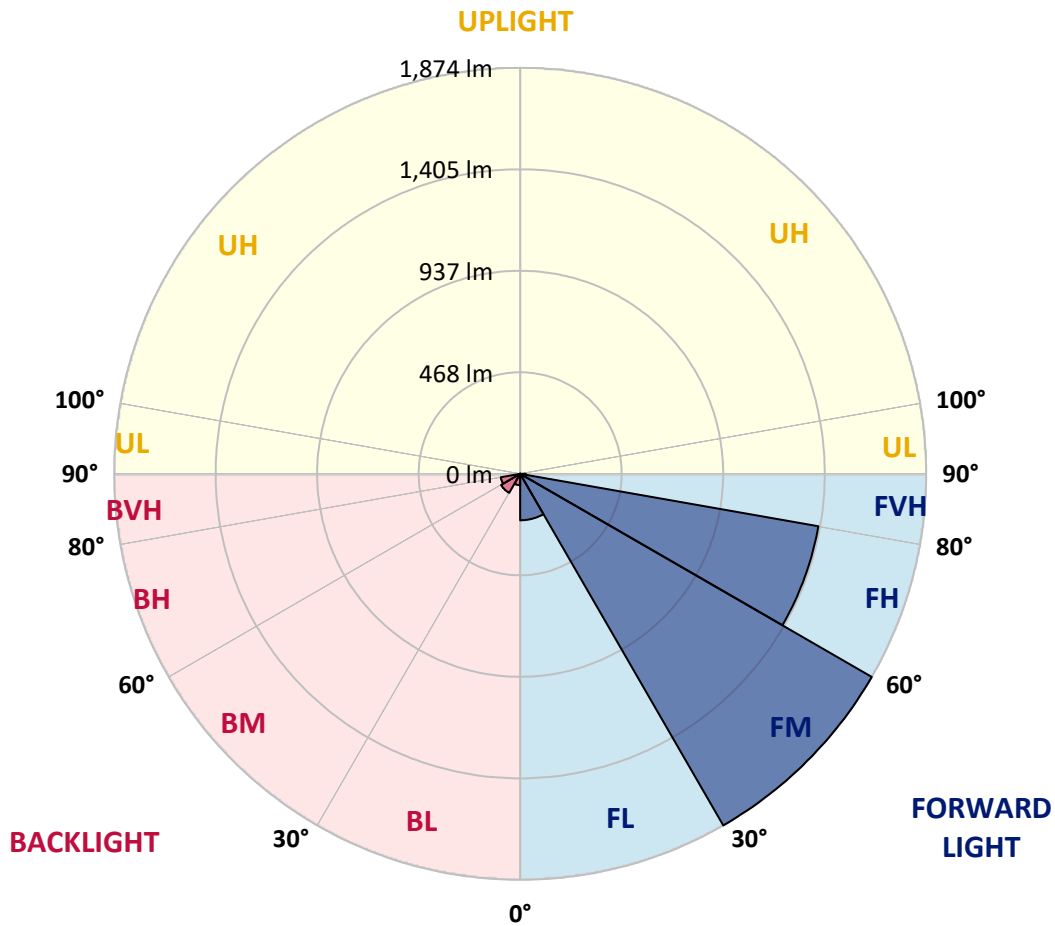
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	214.6	5.7			
FM (30°-60°)	1873.5	49.8			
FH (60°-80°)	1397.1	37.2			G1/1800
FVH (80°-90°)	26.8	0.7			G1/100
BL (0°-30°)	52.5	1.4	B0/110		
BM (30°-60°)	101.6	2.7	B0/220		
BH (60°-80°)	91.0	2.4	B0/110		G0/110
BVH (80°-90°)	1.8	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°	144.8	144.8	144.8	144.8	144.8	144.8	144.8	144.8	144.8	144.8	144.8
2.5°	195.6	188.6	177.2	183.6	183.2	186.5	180.3	173.4	162.5	173.4	174.3
5°	281.6	268.6	260.3	258.6	249.5	241.0	239.1	232.1	226.7	217.0	225.7
7.5°	350.8	344.8	330.1	328.4	306.1	293.6	297.6	294.5	273.9	263.8	272.3
10°	380.2	369.9	372.0	369.9	360.3	363.9	355.8	346.5	330.1	313.3	292.2
12.5°	391.6	390.0	407.2	405.1	427.5	454.4	436.4	420.9	382.9	378.8	350.0
15°	416.1	426.5	424.0	432.7	447.0	492.8	492.3	496.1	455.9	434.3	392.7
17.5°	437.8	445.5	433.1	443.0	482.0	509.8	546.8	532.3	536.9	514.9	450.5
20°	428.5	437.2	424.8	418.8	487.4	540.0	589.5	579.0	606.3	592.6	503.7
22.5°	486.8	470.4	439.1	419.6	470.8	539.4	604.7	648.8	644.0	610.5	553.3
25°	558.7	548.7	511.2	476.8	481.4	535.7	652.3	717.2	731.3	717.0	600.3
27.5°	655.6	653.4	576.7	561.8	517.4	519.3	659.8	803.4	771.3	748.9	655.2
30°	782.2	764.2	673.2	653.8	588.3	556.2	705.4	877.8	854.1	823.7	706.8
32.5°	918.4	921.1	805.0	740.8	688.2	650.0	687.3	912.6	956.7	932.1	771.3
35°	1073.0	1085.0	943.0	867.6	765.2	709.1	764.8	1019.5	1098.7	1033.8	857.7
37.5°	1311.1	1310.6	1144.9	994.6	920.2	859.3	893.9	1116.7	1273.1	1182.0	1012.7
40°	1520.6	1475.0	1320.8	1148.2	1032.1	1015.6	990.5	1249.7	1459.4	1404.5	1150.5
42.5°	1677.0	1644.9	1458.6	1324.3	1180.5	1127.9	1119.0	1444.7	1734.4	1657.5	1347.1
45°	1864.1	1758.9	1621.7	1500.7	1354.2	1338.8	1317.9	1642.6	2054.3	1881.1	1518.1
47.5°	2031.8	1932.7	1803.0	1647.6	1479.3	1605.7	1525.3	1816.5	2287.0	2124.4	1706.6
50°	2172.9	2067.6	1922.3	1804.0	1731.9	1817.7	1683.6	1959.6	2538.4	2406.6	1883.0
52.5°	2244.8	2125.6	2013.3	1940.2	1984.3	1965.0	1898.3	2133.1	2752.7	2654.0	2039.2
55°	2185.7	2069.3	2022.2	2058.5	2192.6	2136.8	2142.2	2401.8	2954.9	2819.0	2175.1
57.5°	1923.8	1817.5	1838.4	1937.7	2194.6	2340.5	2420.3	2662.9	3117.2	3024.5	2384.9
60°	1455.3	1369.7	1447.2	1623.3	1988.2	2299.9	2617.6	2924.0	3349.0	3320.0	2702.3
62.5°	888.7	842.3	952.2	1171.8	1584.4	2100.8	2732.6	3272.1	3597.1	3627.9	3039.0
65°	453.4	432.5	524.0	717.2	1070.5	1725.7	2649.5	3488.5	3853.4	3967.4	3360.0
67.5°	285.5	272.1	321.0	437.4	631.6	1125.6	2319.8	3677.7	4034.5	4124.6	3467.1
70°	197.9	189.4	231.7	300.3	398.5	606.3	1722.4	3501.1	3890.9	3895.0	3207.9
72.5°	125.6	118.9	160.2	222.3	294.0	313.1	987.4	2747.3	3330.6	3292.2	2597.9
75°	81.4	78.1	101.7	162.9	225.9	193.1	488.0	1853.8	2388.2	2328.1	1725.5
77.5°	58.4	56.4	68.2	108.8	160.8	135.1	218.8	1104.9	1369.3	1237.9	837.6
80°	35.2	35.0	49.3	68.2	114.4	95.3	101.1	501.7	530.9	432.9	255.9
82.5°	17.6	18.2	27.6	43.9	73.6	62.4	46.2	167.0	142.6	105.1	51.8
85°	4.1	5.2	14.5	30.3	36.9	24.9	22.0	43.7	39.2	29.6	15.1
87.5°	0.0	0.0	4.6	7.3	9.9	4.1	7.5	8.3	10.6	8.3	3.1
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°	144.8	144.8	144.8	144.8	144.8	144.8	144.8	144.8	144.8	144.8	144.8
2.5°	174.5	172.0	156.9	152.9	152.5	148.2	149.2	145.1	145.3	154.6	154.6
5°	222.3	207.8	193.3	180.5	171.8	159.3	154.8	152.9	151.3	155.0	157.3
7.5°	261.1	239.7	213.6	185.7	159.8	141.9	139.5	134.9	133.2	137.0	139.9
10°	278.3	251.8	215.9	175.1	150.9	136.3	124.3	117.9	116.7	116.5	117.5
12.5°	314.8	281.8	218.4	171.2	144.8	128.9	115.2	104.4	94.5	95.5	94.5
15°	344.0	305.0	218.4	161.6	130.3	114.4	90.3	85.0	83.5	85.8	83.9
17.5°	388.1	328.0	207.4	144.6	117.9	88.9	79.8	79.4	82.3	85.6	83.5
20°	414.6	331.1	189.0	125.2	96.8	77.1	73.8	70.5	74.6	77.3	76.3
22.5°	442.2	331.3	170.5	114.8	77.9	70.2	64.9	62.2	62.8	65.3	65.7
25°	454.0	323.3	153.3	101.1	70.7	62.8	57.2	54.3	53.3	54.5	54.1
27.5°	486.1	307.7	134.7	86.2	67.1	55.7	50.6	47.0	43.9	46.0	46.4
30°	490.7	302.7	124.5	76.7	62.6	49.3	44.8	41.0	38.7	41.7	41.7
32.5°	505.2	275.4	119.4	72.7	57.8	45.6	39.4	36.7	36.3	38.1	38.3
35°	527.6	263.4	111.7	69.6	53.5	41.2	35.4	34.2	33.8	35.2	35.2
37.5°	603.4	248.5	103.2	66.9	49.7	39.0	34.4	32.3	32.5	33.8	34.6
40°	653.8	250.3	90.6	63.6	45.4	36.9	32.3	30.9	30.7	31.3	31.9
42.5°	747.2	251.8	85.0	60.1	42.1	34.4	30.3	29.2	28.4	29.0	29.6
45°	851.7	259.4	82.1	57.2	40.2	32.9	28.4	27.8	25.9	26.3	27.1
47.5°	952.4	287.4	78.5	53.0	38.5	32.1	26.5	25.1	23.8	23.6	24.5
50°	1066.7	314.6	74.6	48.5	36.9	30.9	24.7	22.4	21.6	21.6	22.2
52.5°	1169.1	340.5	70.9	45.4	35.6	28.6	23.0	20.7	20.1	20.1	20.9
55°	1276.9	367.6	67.6	42.5	34.0	26.3	21.6	19.5	19.3	18.9	19.5
57.5°	1467.1	426.9	63.4	40.0	31.7	24.5	20.3	18.2	17.8	17.2	17.8
60°	1744.1	517.8	58.0	37.5	29.0	23.2	19.3	16.8	16.2	15.1	15.3
62.5°	2015.0	591.4	51.8	34.4	26.5	22.0	17.6	15.1	14.1	12.8	13.1
65°	2247.1	620.4	45.2	30.7	24.0	19.1	15.3	13.3	11.8	10.2	9.9
67.5°	2274.4	547.9	38.7	27.1	21.6	16.2	13.1	11.8	9.5	8.1	7.7
70°	2046.9	408.2	32.3	24.0	18.6	13.7	11.2	10.4	8.9	7.7	7.0
72.5°	1630.0	301.3	27.1	21.3	16.4	11.6	9.5	9.7	8.9	7.5	6.6
75°	1077.9	172.4	22.2	17.8	13.7	9.3	8.7	8.7	8.5	7.0	6.2
77.5°	518.7	74.4	17.0	14.1	11.0	7.0	7.9	7.9	8.1	6.4	5.2
80°	147.1	22.4	10.6	9.5	8.1	4.8	6.2	6.0	5.4	3.7	2.3
82.5°	26.3	8.7	4.8	5.0	4.6	1.9	3.5	3.3	2.7	1.5	0.2
85°	7.3	3.3	2.7	2.9	2.3	0.6	1.5	1.9	1.5	0.8	0.0
87.5°	1.9	1.5	1.9	2.1	1.7	0.2	0.6	0.2	0.6	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)