

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: P366855

Luminaire Tested: **MSA-SA1B-830-U-T2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366855  
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-SA1B-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: 3035 lumens  
Efficiency: N/A  
Efficacy: 69.0 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

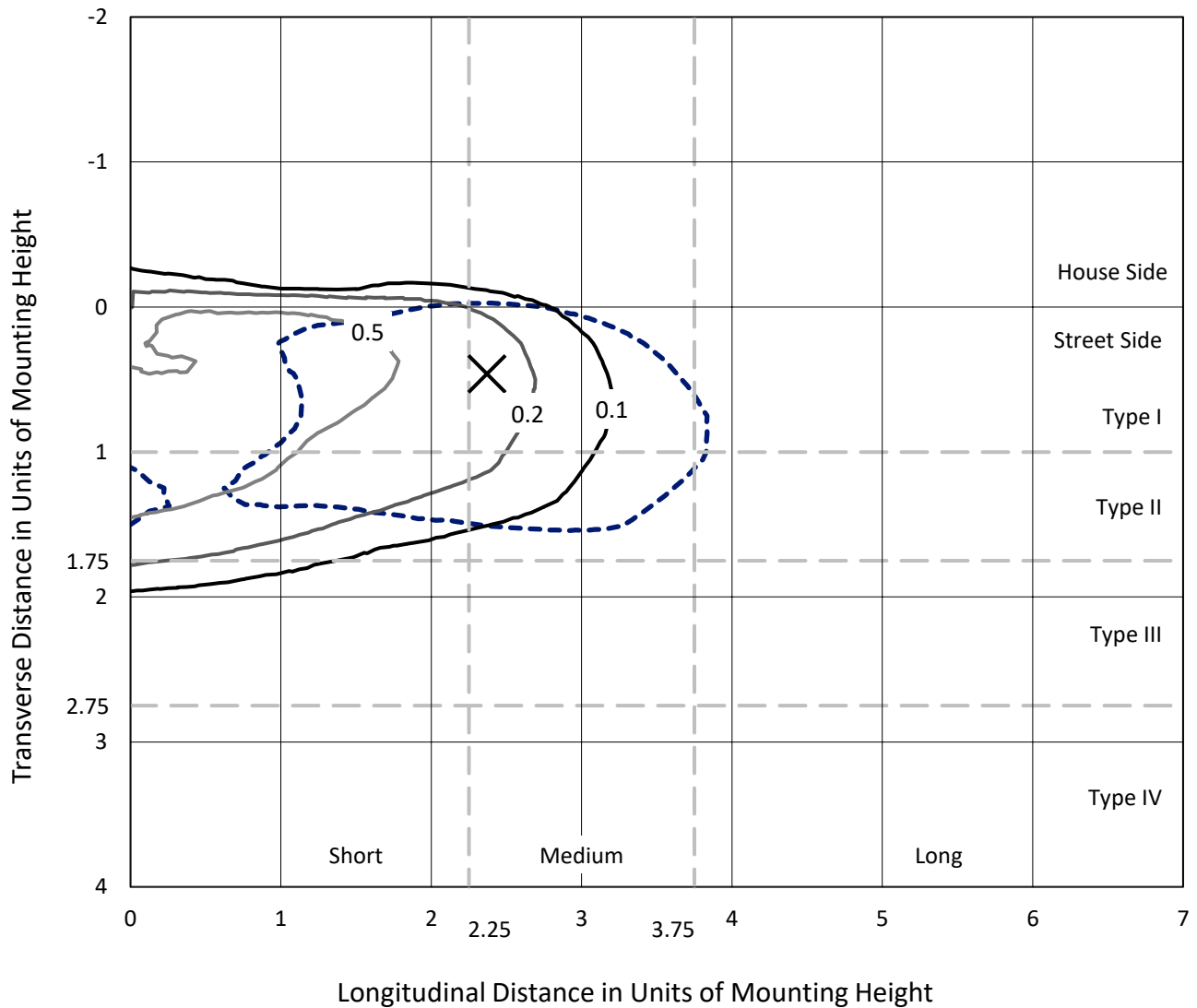
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

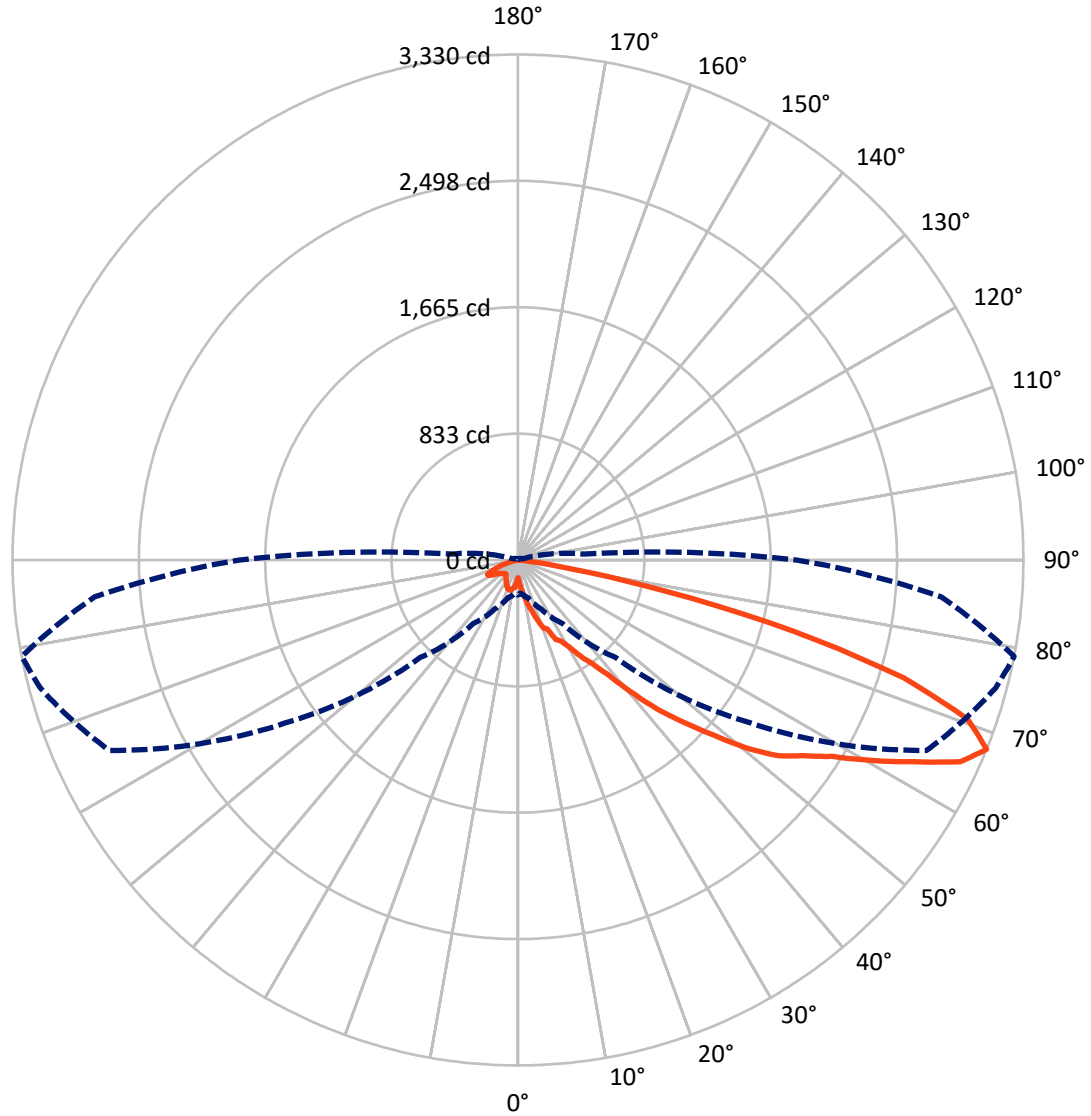
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.9 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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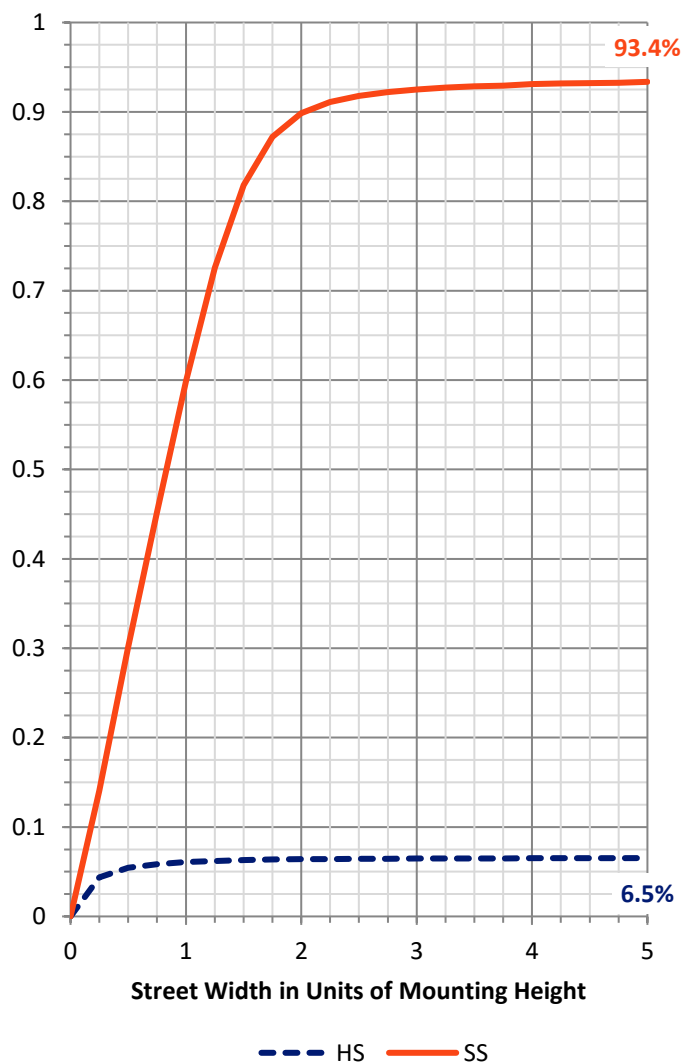
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	199.4	0.0	199.4
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	2835.6	0.0	2835.6
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	3035.0	0.0	3035.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	17.0	0.6
10°-20°	67.8	2.2
20°-30°	130.8	4.3
30°-40°	257.0	8.5
40°-50°	514.8	17.0
50°-60°	822.9	27.1
60°-70°	828.0	27.3
70°-80°	373.5	12.3
80°-90°	23.1	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°	3035.0	100.0
0°-180°	3035.0	100.0

**Coefficient of Utilization**



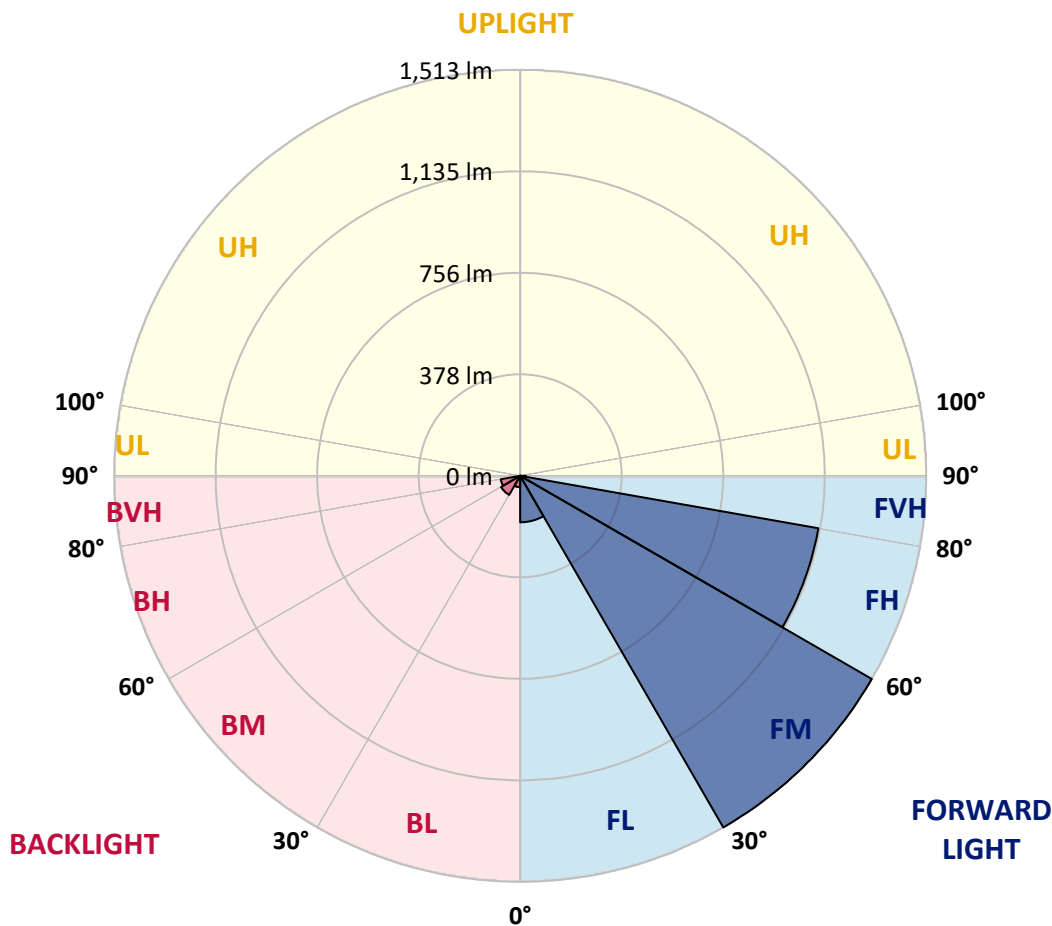
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	173.3	5.7			
FM (30°-60°)	1512.7	49.8			
FH (60°-80°)	1128.0	37.2			G1/1800
FVH (80°-90°)	21.6	0.7			G1/100
BL (0°-30°)	42.4	1.4	B0/110		
BM (30°-60°)	82.0	2.7	B0/220		
BH (60°-80°)	73.5	2.4	B0/110		G0/110
BVH (80°-90°)	1.5	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°	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9
2.5°	157.9	152.2	143.0	148.2	147.9	150.6	145.6	140.0	131.2	140.0	140.7
5°	227.4	216.8	210.1	208.8	201.4	194.6	193.1	187.4	183.0	175.2	182.2
7.5°	283.2	278.4	266.5	265.2	247.1	237.1	240.3	237.7	221.2	213.0	219.8
10°	307.0	298.6	300.3	298.6	290.9	293.8	287.3	279.7	266.5	253.0	235.9
12.5°	316.2	314.9	328.8	327.1	345.2	366.9	352.3	339.8	309.2	305.8	282.6
15°	335.9	344.3	342.3	349.3	360.9	397.9	397.5	400.5	368.1	350.7	317.0
17.5°	353.5	359.7	349.7	357.7	389.2	411.6	441.5	429.8	433.5	415.8	363.7
20°	346.0	353.0	343.0	338.1	393.5	436.0	476.0	467.5	489.5	478.5	406.7
22.5°	393.0	379.8	354.5	338.8	380.1	435.5	488.2	523.8	520.0	492.9	446.7
25°	451.1	443.0	412.7	385.0	388.7	432.5	526.7	579.0	590.4	578.9	484.7
27.5°	529.4	527.5	465.6	453.6	417.8	419.3	532.7	648.6	622.7	604.6	529.0
30°	631.6	617.0	543.6	527.8	475.0	449.0	569.5	708.7	689.6	665.0	570.7
32.5°	741.5	743.7	650.0	598.1	555.6	524.8	555.0	736.8	772.4	752.5	622.7
35°	866.3	876.0	761.4	700.5	617.9	572.5	617.5	823.1	887.1	834.7	692.5
37.5°	1058.5	1058.2	924.4	803.1	743.0	693.8	721.8	901.6	1027.9	954.3	817.6
40°	1227.7	1190.9	1066.4	927.0	833.3	820.0	799.7	1009.0	1178.3	1134.0	928.9
42.5°	1354.0	1328.1	1177.7	1069.2	953.1	910.6	903.4	1166.5	1400.3	1338.3	1087.7
45°	1505.1	1420.1	1309.3	1211.6	1093.3	1081.0	1064.1	1326.2	1658.7	1518.8	1225.7
47.5°	1640.4	1560.5	1455.7	1330.2	1194.4	1296.4	1231.5	1466.6	1846.5	1715.2	1377.9
50°	1754.4	1669.4	1552.1	1456.6	1398.3	1467.6	1359.4	1582.2	2049.5	1943.1	1520.3
52.5°	1812.4	1716.2	1625.5	1566.5	1602.1	1586.6	1532.7	1722.2	2222.5	2142.8	1646.5
55°	1764.7	1670.7	1632.7	1662.0	1770.3	1725.3	1729.6	1939.2	2385.8	2276.0	1756.2
57.5°	1553.3	1467.4	1484.3	1564.5	1771.9	1889.7	1954.1	2150.0	2516.8	2442.0	1925.5
60°	1175.0	1105.9	1168.5	1310.7	1605.3	1856.9	2113.4	2360.8	2704.0	2680.6	2181.8
62.5°	717.6	680.1	768.8	946.1	1279.2	1696.1	2206.3	2641.9	2904.3	2929.2	2453.7
65°	366.1	349.2	423.1	579.0	864.3	1393.3	2139.2	2816.6	3111.2	3203.2	2712.9
67.5°	230.5	219.7	259.2	353.2	509.9	908.8	1873.0	2969.3	3257.4	3330.2	2799.4
70°	159.8	152.9	187.0	242.4	321.7	489.5	1390.6	2826.8	3141.5	3144.8	2590.1
72.5°	101.4	96.0	129.3	179.5	237.4	252.8	797.2	2218.1	2689.1	2658.1	2097.5
75°	65.8	63.1	82.1	131.5	182.4	155.9	394.0	1496.7	1928.2	1879.7	1393.2
77.5°	47.2	45.5	55.0	87.8	129.8	109.1	176.7	892.1	1105.6	999.5	676.2
80°	28.4	28.3	39.8	55.0	92.4	77.0	81.6	405.0	428.6	349.5	206.6
82.5°	14.2	14.7	22.3	35.5	59.4	50.4	37.3	134.8	115.1	84.8	41.8
85°	3.3	4.2	11.7	24.4	29.8	20.1	17.7	35.3	31.6	23.9	12.2
87.5°	0.0	0.0	3.7	5.9	8.0	3.3	6.0	6.7	8.5	6.7	2.5
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°	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9
2.5°	140.9	138.9	126.7	123.5	123.1	119.6	120.5	117.1	117.3	124.8	124.8
5°	179.5	167.8	156.1	145.7	138.7	128.7	125.0	123.5	122.1	125.1	127.0
7.5°	210.8	193.6	172.5	149.9	129.0	114.6	112.6	108.9	107.6	110.6	112.9
10°	224.7	203.3	174.3	141.4	121.8	110.1	100.4	95.2	94.2	94.0	94.9
12.5°	254.1	227.5	176.3	138.2	116.9	104.1	93.0	84.3	76.3	77.1	76.3
15°	277.7	246.3	176.3	130.5	105.2	92.4	72.9	68.6	67.4	69.3	67.8
17.5°	313.4	264.8	167.5	116.8	95.2	71.8	64.4	64.1	66.4	69.1	67.4
20°	334.8	267.4	152.6	101.1	78.1	62.2	59.6	56.9	60.2	62.4	61.6
22.5°	357.0	267.5	137.7	92.7	62.9	56.7	52.4	50.2	50.7	52.7	53.0
25°	366.6	261.0	123.8	81.6	57.1	50.7	46.2	43.8	43.0	44.0	43.7
27.5°	392.5	248.4	108.7	69.6	54.2	45.0	40.8	38.0	35.5	37.1	37.5
30°	396.2	244.4	100.6	61.9	50.5	39.8	36.1	33.1	31.3	33.6	33.6
32.5°	407.9	222.3	96.4	58.7	46.7	36.8	31.8	29.6	29.3	30.8	31.0
35°	426.0	212.6	90.2	56.2	43.2	33.3	28.6	27.6	27.3	28.4	28.4
37.5°	487.2	200.6	83.3	54.0	40.2	31.5	27.8	26.1	26.3	27.3	27.9
40°	527.8	202.1	73.1	51.4	36.6	29.8	26.1	24.9	24.8	25.3	25.8
42.5°	603.3	203.3	68.6	48.5	34.0	27.8	24.4	23.6	22.9	23.4	23.9
45°	687.6	209.5	66.3	46.2	32.5	26.6	22.9	22.4	20.9	21.2	21.9
47.5°	768.9	232.1	63.4	42.8	31.1	25.9	21.4	20.2	19.2	19.1	19.7
50°	861.3	254.0	60.2	39.1	29.8	24.9	19.9	18.1	17.4	17.4	17.9
52.5°	943.9	274.9	57.2	36.6	28.8	23.1	18.6	16.7	16.2	16.2	16.9
55°	1030.9	296.8	54.5	34.3	27.4	21.2	17.4	15.7	15.6	15.2	15.7
57.5°	1184.5	344.6	51.2	32.3	25.6	19.7	16.4	14.7	14.4	13.9	14.4
60°	1408.2	418.1	46.8	30.3	23.4	18.7	15.6	13.6	13.0	12.2	12.4
62.5°	1626.9	477.5	41.8	27.8	21.4	17.7	14.2	12.2	11.4	10.4	10.5
65°	1814.3	500.9	36.5	24.8	19.4	15.4	12.4	10.7	9.5	8.2	8.0
67.5°	1836.3	442.4	31.3	21.9	17.4	13.0	10.5	9.5	7.7	6.5	6.2
70°	1652.6	329.6	26.1	19.4	15.1	11.0	9.0	8.4	7.2	6.2	5.7
72.5°	1316.0	243.3	21.9	17.2	13.2	9.4	7.7	7.9	7.2	6.0	5.4
75°	870.3	139.2	17.9	14.4	11.0	7.5	7.0	7.0	6.9	5.7	5.0
77.5°	418.8	60.1	13.7	11.4	8.9	5.7	6.4	6.4	6.5	5.2	4.2
80°	118.8	18.1	8.5	7.7	6.5	3.8	5.0	4.9	4.3	3.0	1.8
82.5°	21.2	7.0	3.8	4.0	3.7	1.5	2.8	2.7	2.2	1.2	0.2
85°	5.9	2.7	2.2	2.3	1.8	0.5	1.2	1.5	1.2	0.7	0.0
87.5°	1.5	1.2	1.5	1.7	1.3	0.2	0.5	0.2	0.5	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)