

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: P367256

Luminaire Tested: **MSA-SA2A-830-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367256  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2A-830-U-T4FT  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6331 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

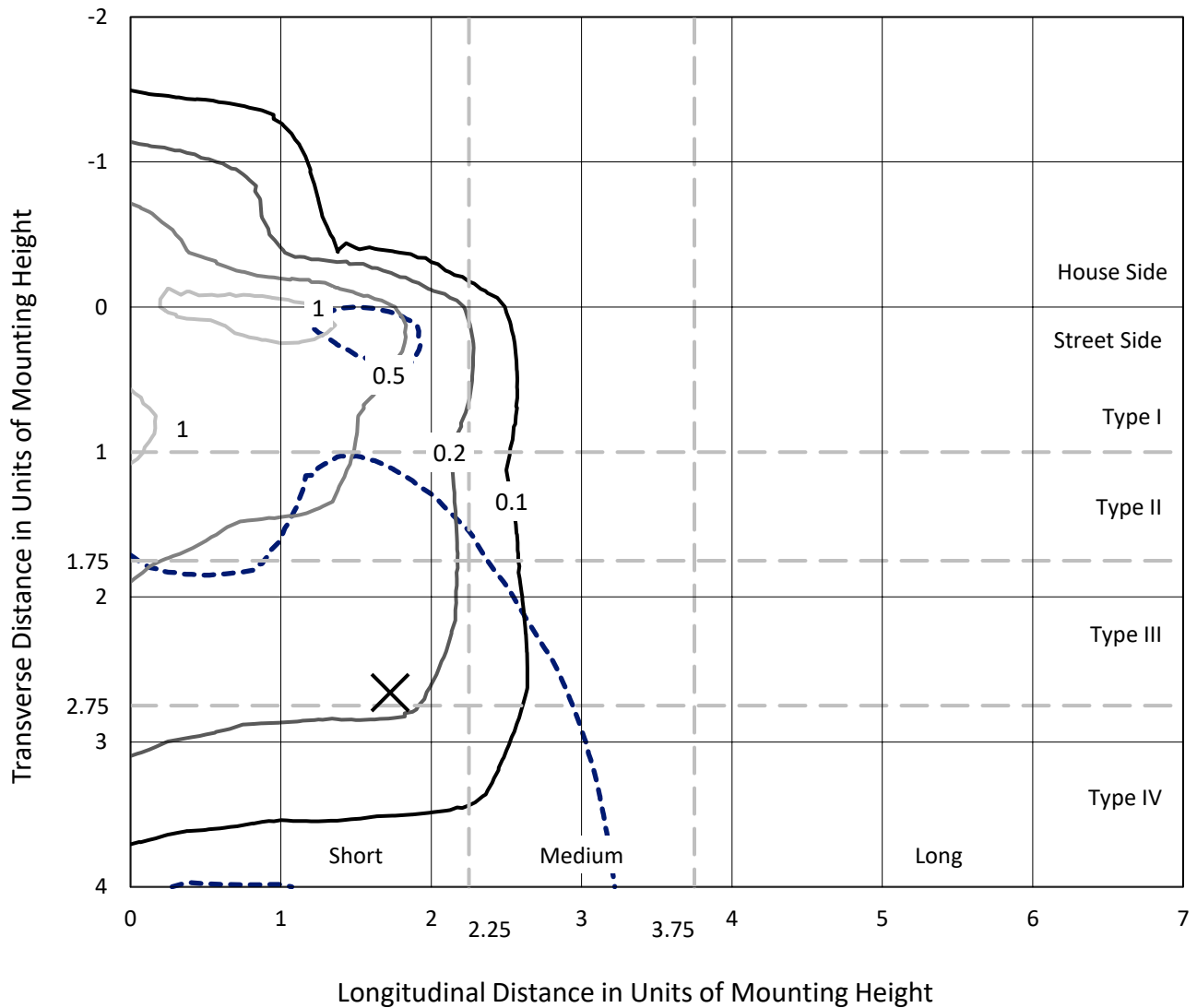
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P367256  
 CATALOG NUMBER: MSA-SA2A-830-U-T4FT

### Iso-Footcandle Lines of Horizontal Illumination

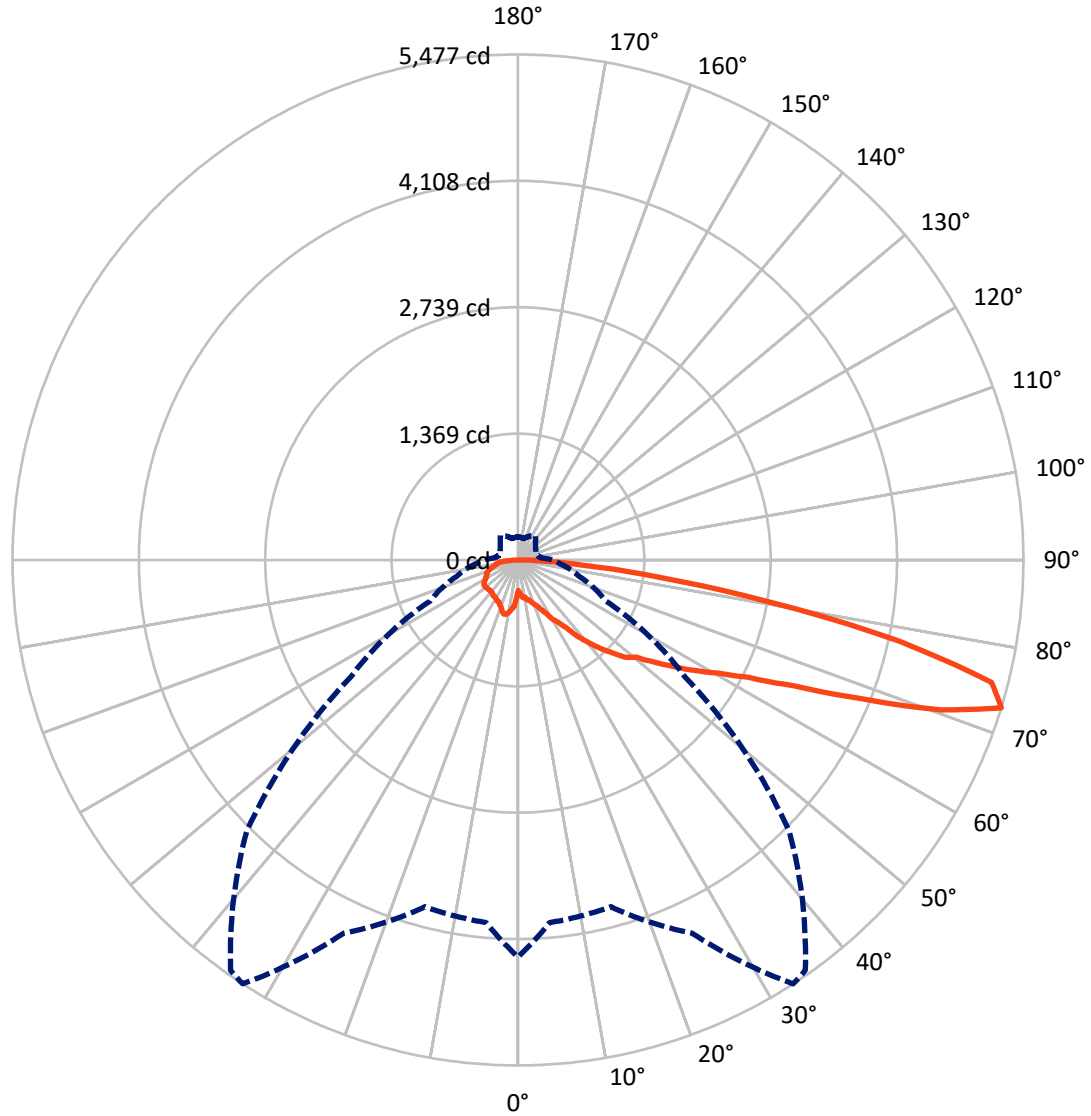
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.3 fc  
 Type IV - Short - N/A

REPORT NUMBER: P367256  
CATALOG NUMBER: MSA-SA2A-830-U-T4FT

### Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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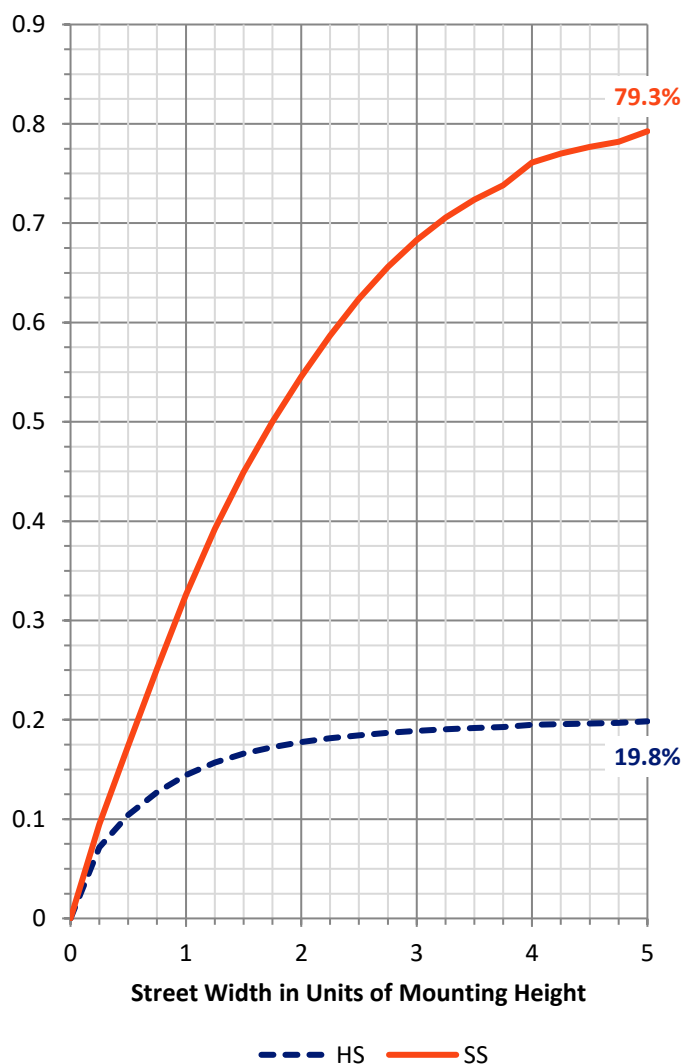
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1280.7	0.0	1280.7
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	5050.3	0.0	5050.3
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	6331.0	0.0	6331.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.7	0.7
10°-20°	168.7	2.7
20°-30°	307.6	4.9
30°-40°	520.4	8.2
40°-50°	865.7	13.7
50°-60°	1270.5	20.1
60°-70°	1625.3	25.7
70°-80°	1322.3	20.9
80°-90°	204.8	3.2
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°	6331.0	100.0
0°-180°	6331.0	100.0

**Coefficient of Utilization**

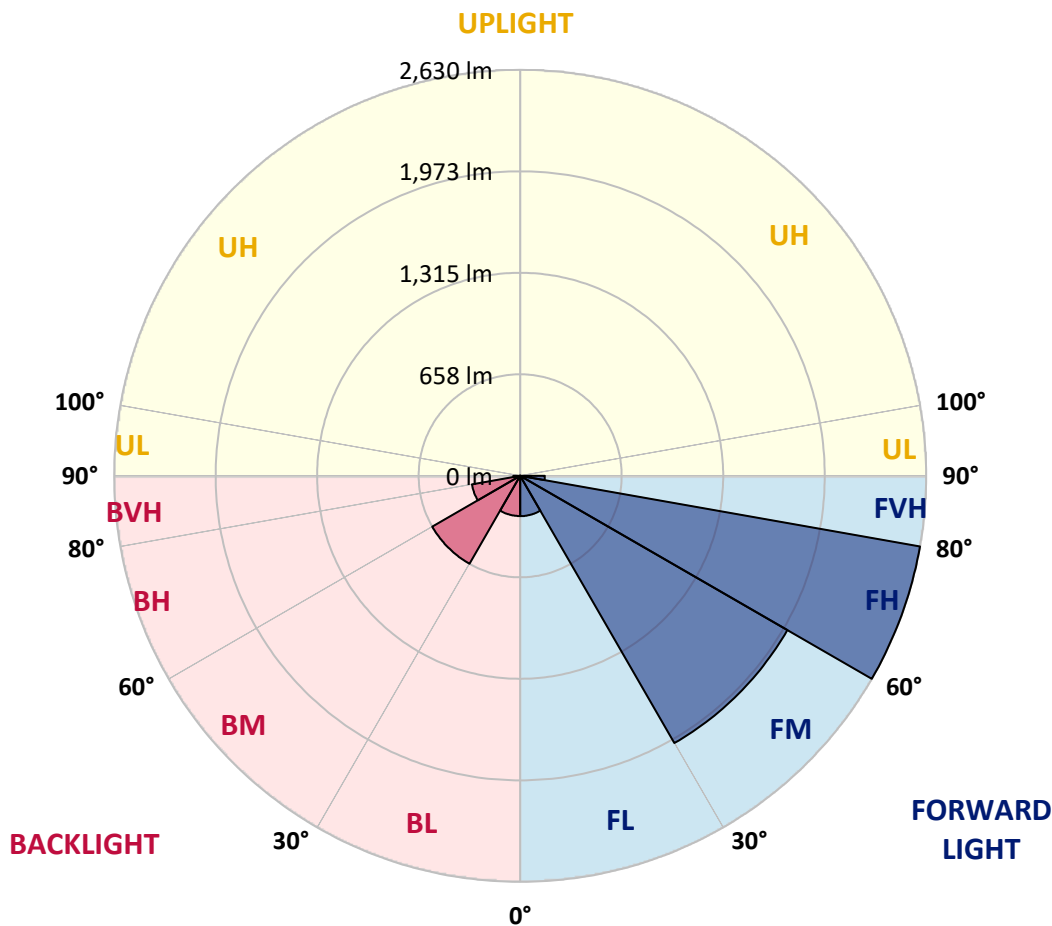


REPORT NUMBER: P367256  
 CATALOG NUMBER: MSA-SA2A-830-U-T4FT

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	261.3	4.1			
FM (30°-60°)	1998.8	31.6			
FH (60°-80°)	2630.3	41.5			G2/5000
FVH (80°-90°)	159.8	2.5			G2/225
BL (0°-30°)	260.7	4.1	B1/500		
BM (30°-60°)	657.8	10.4	B1/1000		
BH (60°-80°)	317.3	5.0	B1/500		G1/500
BVH (80°-90°)	45.0	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	332.0	332.0	332.0	332.0	332.0	332.0	332.0	332.0	332.0	332.0	332.0
2.5°	376.4	364.5	345.1	344.6	355.3	357.7	364.8	365.3	368.0	363.8	393.7
5°	415.2	402.6	395.0	397.6	392.6	398.7	398.7	416.0	439.1	465.9	504.0
7.5°	424.4	415.2	406.6	413.1	414.2	408.4	413.9	454.6	496.4	523.2	584.1
10°	406.0	396.8	403.4	405.5	405.2	418.4	447.0	479.6	526.1	575.4	608.3
12.5°	402.6	409.2	412.3	416.0	441.0	444.9	488.2	521.9	568.6	611.9	697.3
15°	453.3	462.0	442.5	441.2	449.4	453.0	498.0	531.8	600.1	672.9	749.6
17.5°	525.5	528.7	493.8	475.9	481.9	484.8	504.5	547.1	589.1	723.6	819.2
20°	595.4	597.5	531.8	491.9	513.2	516.3	534.7	559.2	592.2	751.9	866.2
22.5°	668.7	655.3	583.3	532.9	545.2	546.0	556.8	570.2	617.2	747.5	923.4
25°	748.8	740.4	649.8	601.4	600.9	590.1	590.7	609.8	643.7	795.3	961.0
27.5°	855.1	856.2	724.6	698.6	657.9	650.8	615.4	651.1	689.7	795.8	1042.1
30°	993.0	967.6	828.9	786.9	746.7	731.7	683.6	714.1	730.9	841.2	1130.4
32.5°	1105.2	1097.8	937.6	874.1	808.4	825.7	772.7	745.9	776.1	919.5	1264.1
35°	1212.6	1188.4	1052.6	969.9	900.8	890.3	855.9	860.4	878.8	1018.5	1438.7
37.5°	1372.8	1359.7	1215.5	1083.1	1050.8	1008.0	986.2	1000.1	985.7	1145.4	1700.6
40°	1551.9	1475.8	1351.5	1233.6	1173.2	1143.0	1150.6	1137.5	1126.4	1287.7	1935.4
42.5°	1723.4	1654.1	1441.9	1388.8	1310.0	1322.6	1280.9	1290.1	1321.3	1489.7	2152.6
45°	1910.2	1760.2	1537.7	1491.0	1434.5	1450.5	1483.9	1473.9	1525.1	1727.9	2357.2
47.5°	2003.4	1860.8	1655.4	1579.2	1578.4	1545.1	1748.1	1770.2	1690.1	1904.4	2564.9
50°	2093.2	1953.0	1742.9	1691.4	1654.1	1725.5	2001.6	1950.9	1839.2	2106.9	2793.4
52.5°	2218.2	2058.3	1843.2	1788.3	1834.5	1900.7	2203.8	2193.8	1985.5	2315.1	2992.0
55°	2313.6	2152.0	1994.2	1943.3	2031.5	2096.4	2409.7	2349.5	2110.8	2468.0	3117.8
57.5°	2480.6	2314.9	2217.2	2104.0	2262.6	2261.6	2608.2	2561.8	2244.8	2593.5	3168.5
60°	2746.1	2551.5	2449.4	2318.8	2488.7	2549.4	2835.2	2701.2	2339.6	2672.9	3077.1
62.5°	3118.8	2887.7	2722.0	2592.8	2800.0	2909.8	3115.4	2802.9	2345.6	2650.3	2836.7
65°	3579.7	3298.7	3081.5	2944.9	3286.9	3443.7	3454.2	2865.6	2289.9	2416.8	2331.4
67.5°	4029.4	3713.4	3486.8	3512.8	4012.0	4086.4	3821.4	2918.2	1990.8	1940.6	1618.9
70°	4325.4	3982.9	3831.9	4107.6	4866.1	4790.0	4118.9	2779.7	1567.7	1258.0	911.6
72.5°	4303.0	3944.5	3890.2	4461.1	5477.0	5429.5	4155.2	2210.6	1050.0	687.8	454.6
75°	3505.7	3227.0	3350.5	4223.2	5301.1	5298.7	3607.6	1368.3	538.7	353.2	287.3
77.5°	1938.3	1830.1	2192.8	3197.6	4220.8	4242.4	2437.5	620.6	290.5	250.3	216.4
80°	678.9	668.9	950.2	1725.5	2776.6	2781.8	1133.5	283.9	211.2	189.4	158.9
82.5°	248.2	246.1	394.0	801.6	1528.8	1525.4	429.9	176.8	156.5	133.9	104.8
85°	99.0	96.9	180.2	355.9	702.3	691.0	167.0	100.3	102.4	79.8	51.5
87.5°	27.3	28.4	61.2	111.4	215.1	199.3	42.0	33.9	41.5	32.6	16.3
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°	332.0	332.0	332.0	332.0	332.0	332.0	332.0	332.0	332.0	332.0	332.0
2.5°	398.9	401.6	375.6	384.8	396.6	402.9	406.0	392.6	397.1	416.0	415.2
5°	511.9	501.4	491.4	501.6	494.8	485.1	500.8	500.1	510.3	520.5	522.9
7.5°	596.2	582.5	577.8	554.7	531.6	508.2	528.4	541.0	543.7	569.1	579.9
10°	626.7	621.4	623.2	592.8	589.9	592.2	573.6	553.4	565.7	555.2	563.1
12.5°	697.0	710.2	677.6	656.9	655.0	640.6	603.3	590.1	576.2	590.7	583.3
15°	753.5	777.9	743.0	706.5	665.3	642.9	611.2	591.2	582.0	585.2	576.2
17.5°	836.2	859.1	770.3	714.4	671.8	639.0	590.4	547.9	570.4	572.3	562.0
20°	891.1	892.7	779.5	694.9	656.6	599.6	552.3	515.0	541.0	567.6	579.1
22.5°	944.7	932.9	790.8	679.4	601.2	546.0	522.9	520.5	540.0	562.3	564.9
25°	984.9	986.7	797.4	673.7	568.6	493.5	493.5	510.6	527.6	580.7	578.1
27.5°	1082.3	1010.6	771.9	647.1	523.4	462.8	493.8	516.6	524.7	582.3	588.0
30°	1153.2	1106.5	777.1	601.7	477.7	448.3	473.8	502.4	525.0	591.5	589.4
32.5°	1272.2	1146.4	789.5	537.9	443.6	442.8	465.4	495.6	522.6	581.5	584.6
35°	1403.8	1264.1	755.1	489.3	435.5	439.7	468.8	480.9	512.7	577.5	580.4
37.5°	1647.3	1325.5	733.3	451.7	430.2	442.3	453.3	472.0	504.0	557.8	576.8
40°	1790.1	1452.1	652.4	429.9	419.2	440.2	445.7	461.5	478.8	534.2	546.3
42.5°	1978.2	1492.0	583.3	405.8	413.7	431.5	448.1	452.0	463.6	496.9	519.0
45°	2135.0	1522.0	510.0	386.3	395.0	450.7	451.7	449.9	447.8	460.1	478.3
47.5°	2297.3	1602.3	442.5	364.8	387.9	466.4	453.6	436.8	428.1	429.7	446.5
50°	2476.4	1660.7	394.7	347.2	389.5	466.4	462.5	423.4	406.0	401.6	419.2
52.5°	2634.0	1667.5	358.5	333.0	382.9	450.4	468.5	415.0	385.8	375.0	391.6
55°	2719.9	1581.1	332.2	320.2	366.1	436.0	465.4	410.2	361.4	353.2	368.0
57.5°	2718.0	1437.7	309.9	302.3	346.9	415.8	447.8	384.5	346.4	341.7	356.1
60°	2620.1	1269.6	292.8	287.6	327.2	386.3	416.3	367.7	332.0	329.6	345.4
62.5°	2397.9	1096.0	276.3	272.1	308.9	365.6	401.3	349.0	317.0	316.7	331.7
65°	1963.7	879.8	260.8	259.7	291.8	345.1	387.1	333.3	301.5	306.8	322.0
67.5°	1353.1	618.2	244.3	247.4	276.0	325.4	376.4	322.8	285.2	296.0	309.6
70°	742.5	382.4	225.9	232.2	256.1	302.6	359.5	305.7	264.0	280.5	290.0
72.5°	377.7	255.0	203.0	213.0	231.6	268.9	328.0	281.0	241.1	247.4	252.4
75°	253.7	192.0	177.5	188.6	202.0	236.9	291.0	257.9	219.3	218.5	224.0
77.5°	191.7	150.0	150.8	163.4	172.0	208.3	261.6	238.5	200.9	199.1	207.2
80°	140.2	113.7	121.3	134.5	142.3	187.0	242.4	216.9	176.0	168.6	175.4
82.5°	93.0	80.6	89.8	103.0	109.3	156.3	220.1	184.1	143.4	124.8	125.8
85°	43.9	42.3	53.6	59.9	68.0	96.9	164.7	127.4	91.4	75.6	79.1
87.5°	10.0	13.4	17.6	17.3	20.2	26.0	51.2	35.7	26.5	18.1	12.1
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)