

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: P596956

Luminaire Tested: **MSA-SA2B-835-U-T4FT**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596956  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2B-835-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: 8231 lumens  
Efficiency: N/A  
Efficacy: 96.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

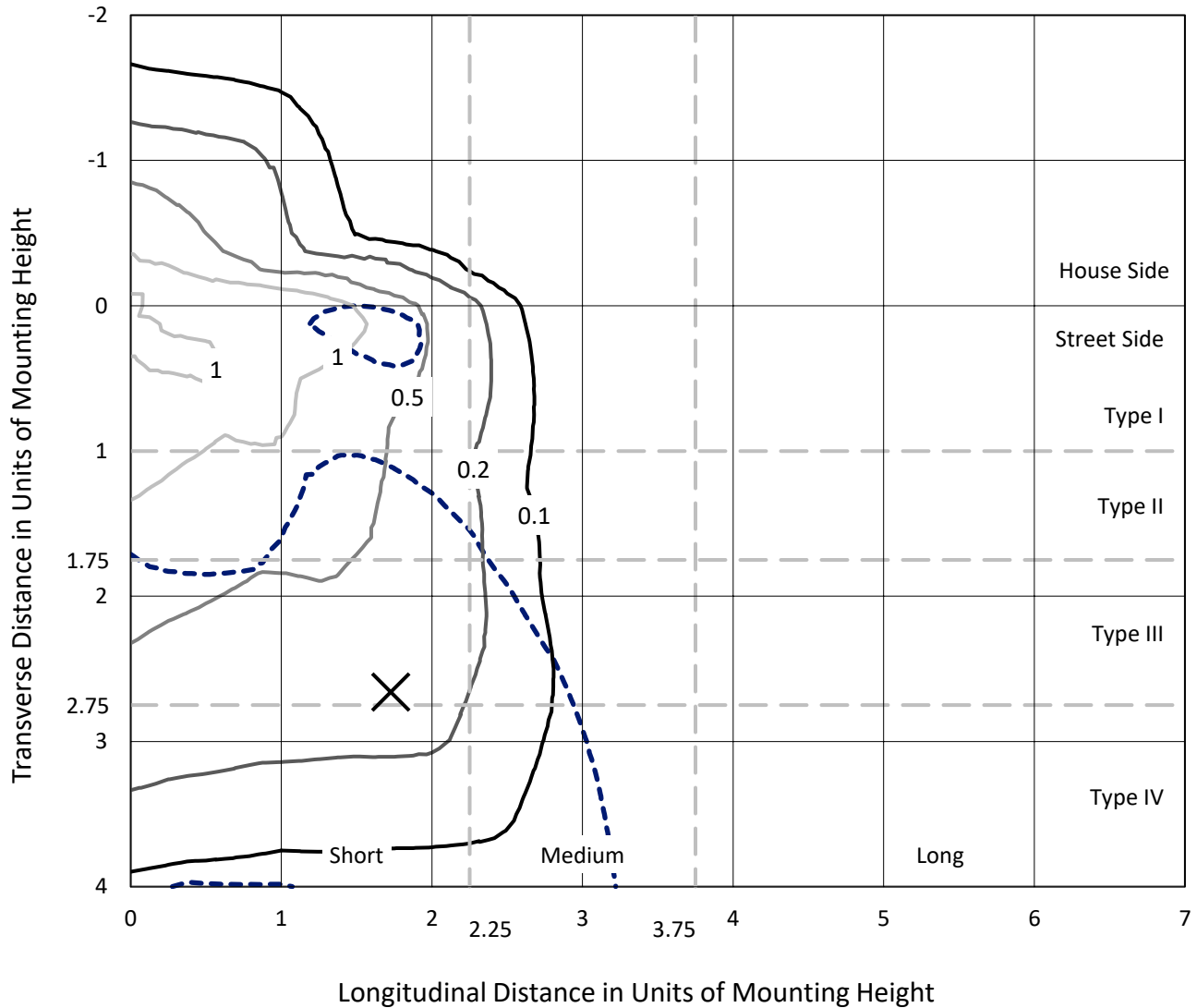
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

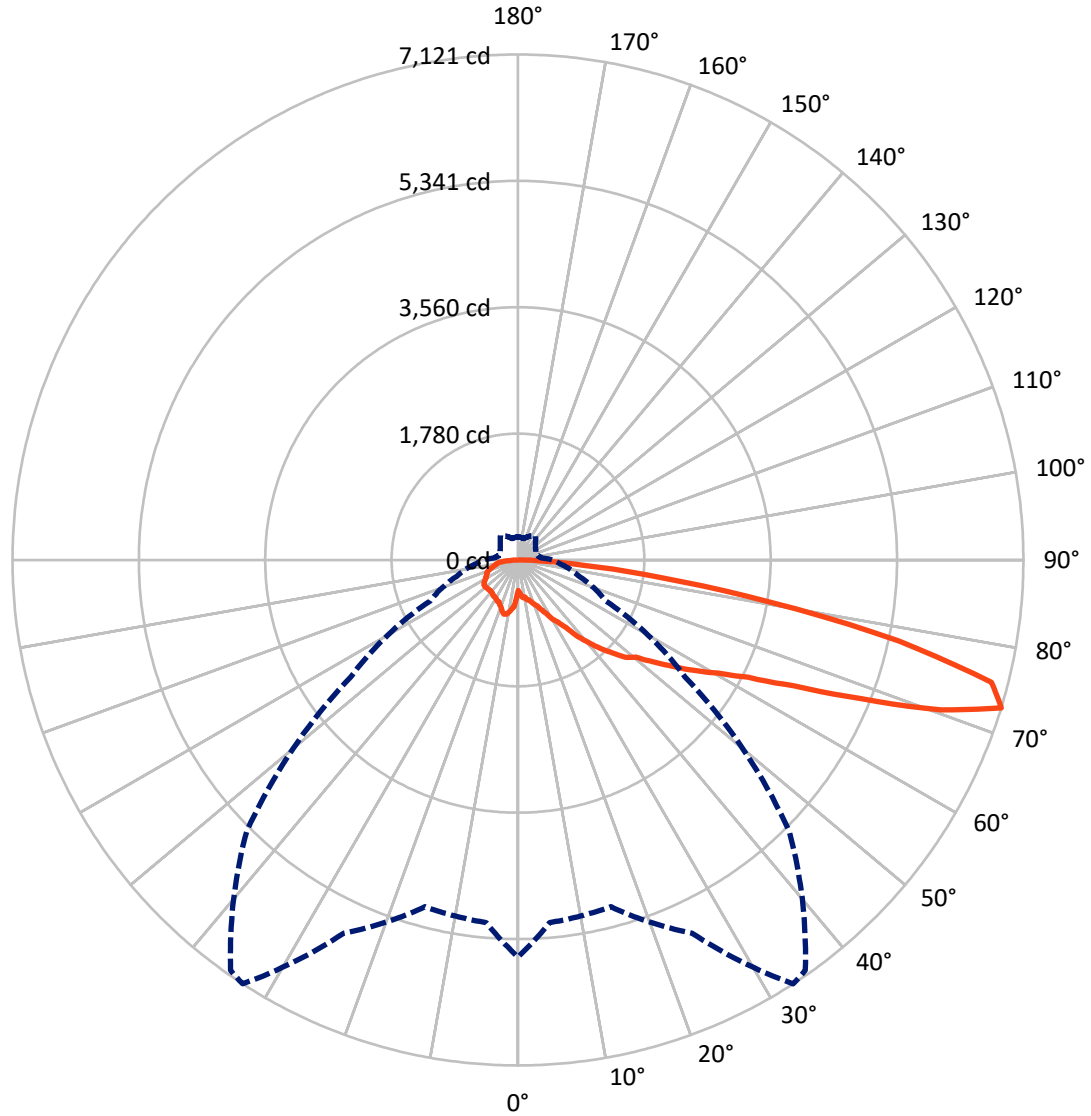
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.7 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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

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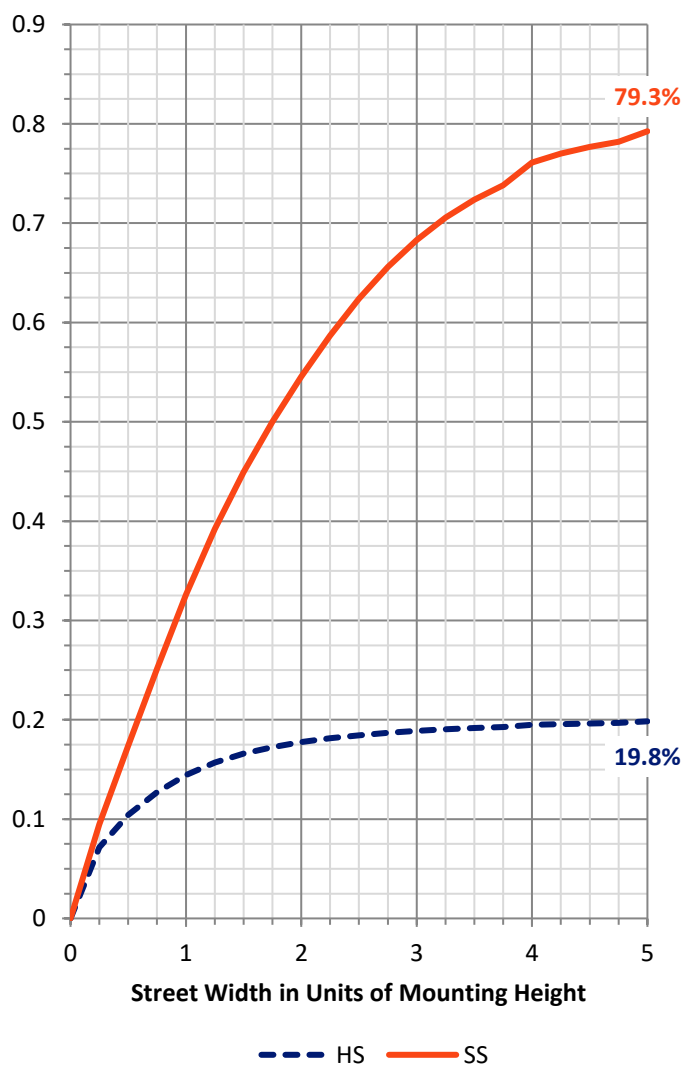
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1665.1	0.0	1665.1
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	6565.9	0.0	6565.9
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	8231.0	0.0	8231.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.4	0.7
10°-20°	219.3	2.7
20°-30°	399.9	4.9
30°-40°	676.6	8.2
40°-50°	1125.5	13.7
50°-60°	1651.8	20.1
60°-70°	2113.1	25.7
70°-80°	1719.2	20.9
80°-90°	266.3	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°	8231.0	100.0
0°-180°	8231.0	100.0

**Coefficient of Utilization**

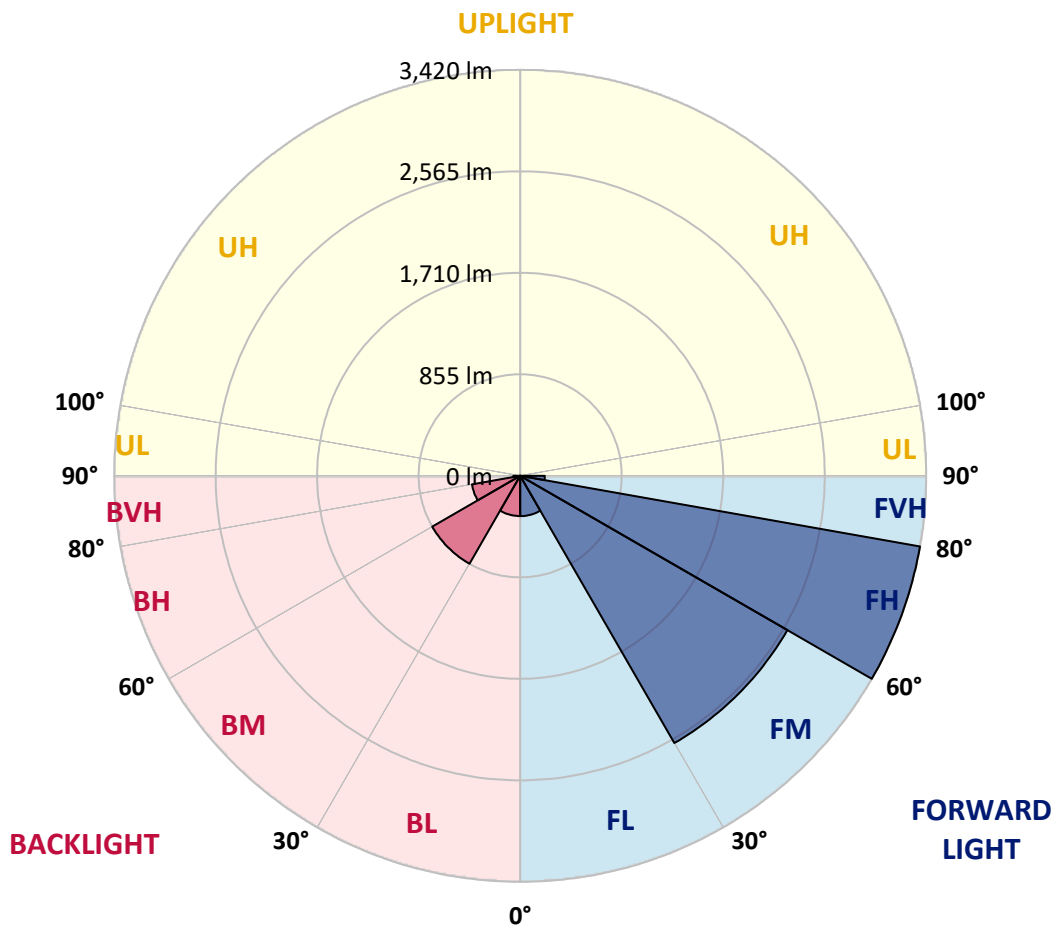


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	339.7	4.1			
FM (30°-60°)	2598.7	31.6			
FH (60°-80°)	3419.7	41.5			G2/5000
FVH (80°-90°)	207.8	2.5			G2/225
BL (0°-30°)	338.9	4.1	B1/500		
BM (30°-60°)	855.2	10.4	B1/1000		
BH (60°-80°)	412.6	5.0	B1/500		G1/500
BVH (80°-90°)	58.5	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°	431.6	431.6	431.6	431.6	431.6	431.6	431.6	431.6	431.6	431.6	431.6
2.5°	489.3	473.9	448.7	448.0	462.0	465.1	474.3	475.0	478.4	472.9	511.8
5°	539.8	523.5	513.6	517.0	510.5	518.3	518.3	540.9	570.9	605.7	655.3
7.5°	551.8	539.8	528.6	537.1	538.5	531.0	538.1	591.1	645.4	680.2	759.4
10°	527.9	515.9	524.5	527.2	526.9	543.9	581.2	623.5	683.9	748.1	790.8
12.5°	523.5	532.0	536.1	540.9	573.3	578.4	634.8	678.5	739.3	795.6	906.6
15°	589.4	600.6	575.4	573.6	584.2	589.0	647.4	691.5	780.2	874.8	974.5
17.5°	683.3	687.4	641.9	618.7	626.6	630.3	655.9	711.3	765.9	940.7	1065.0
20°	774.1	776.8	691.5	639.5	667.2	671.3	695.2	727.0	770.0	977.6	1126.1
22.5°	869.3	851.9	758.4	692.8	708.9	709.9	723.9	741.3	802.4	971.8	1200.6
25°	973.5	962.6	844.8	781.9	781.3	767.3	767.9	792.9	836.9	1033.9	1249.4
27.5°	1111.8	1113.1	942.1	908.3	855.3	846.1	800.0	846.5	896.7	1034.6	1354.9
30°	1291.0	1257.9	1077.6	1023.0	970.8	951.3	888.8	928.4	950.3	1093.7	1469.6
32.5°	1436.9	1427.3	1219.0	1136.4	1051.0	1073.5	1004.6	969.7	1009.0	1195.4	1643.4
35°	1576.5	1545.1	1368.6	1261.0	1171.2	1157.5	1112.8	1118.6	1142.5	1324.2	1870.5
37.5°	1784.8	1767.7	1580.3	1408.2	1366.2	1310.5	1282.2	1300.3	1281.5	1489.1	2210.9
40°	2017.7	1918.6	1757.1	1603.8	1525.3	1486.0	1495.9	1478.9	1464.5	1674.2	2516.2
42.5°	2240.6	2150.5	1874.6	1805.6	1703.2	1719.6	1665.3	1677.2	1717.9	1936.7	2798.6
45°	2483.4	2288.4	1999.2	1938.5	1865.0	1885.9	1929.2	1916.3	1982.8	2246.4	3064.6
47.5°	2604.6	2419.2	2152.2	2053.2	2052.2	2008.8	2272.7	2301.4	2197.3	2475.9	3334.7
50°	2721.4	2539.1	2265.9	2199.0	2150.5	2243.4	2602.2	2536.3	2391.2	2739.2	3631.7
52.5°	2883.9	2676.0	2396.3	2325.0	2385.1	2471.1	2865.2	2852.2	2581.4	3009.9	3889.9
55°	3007.9	2797.9	2592.7	2526.4	2641.2	2725.5	3132.9	3054.7	2744.3	3208.7	4053.4
57.5°	3225.1	3009.6	2882.6	2735.4	2941.7	2940.3	3391.0	3330.6	2918.4	3371.9	4119.3
60°	3570.3	3317.3	3184.4	3014.7	3235.6	3314.5	3686.0	3511.9	3041.7	3475.0	4000.5
62.5°	4054.8	3754.3	3538.9	3370.9	3640.3	3783.0	4050.4	3644.0	3049.6	3445.6	3688.1
65°	4654.1	4288.7	4006.3	3828.8	4273.3	4477.2	4490.8	3725.6	2977.2	3142.1	3031.1
67.5°	5238.6	4827.9	4533.2	4567.0	5216.1	5312.7	4968.2	3793.9	2588.2	2523.0	2104.7
70°	5623.5	5178.2	4981.9	5340.4	6326.5	6227.5	5355.1	3614.0	2038.2	1635.6	1185.2
72.5°	5594.4	5128.3	5057.7	5800.0	7120.7	7058.9	5402.2	2874.0	1365.1	894.3	591.1
75°	4557.8	4195.5	4356.0	5490.6	6892.0	6888.9	4690.3	1779.0	700.3	459.3	373.6
77.5°	2520.0	2379.3	2850.8	4157.2	5487.6	5515.6	3169.1	806.9	377.7	325.4	281.4
80°	882.7	869.7	1235.4	2243.4	3609.9	3616.7	1473.7	369.1	274.5	246.2	206.6
82.5°	322.7	319.9	512.2	1042.1	1987.6	1983.2	559.0	229.8	203.5	174.1	136.2
85°	128.7	126.0	234.2	462.7	913.1	898.4	217.2	130.4	133.2	103.8	66.9
87.5°	35.5	36.9	79.6	144.8	279.7	259.2	54.6	44.0	54.0	42.3	21.2
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°	431.6	431.6	431.6	431.6	431.6	431.6	431.6	431.6	431.6	431.6	431.6
2.5°	518.7	522.1	488.3	500.2	515.6	523.8	527.9	510.5	516.3	540.9	539.8
5°	665.5	651.8	638.9	652.2	643.3	630.7	651.2	650.1	663.5	676.8	679.8
7.5°	775.1	757.4	751.2	721.2	691.1	660.7	687.0	703.4	706.8	739.9	753.9
10°	814.7	807.9	810.3	770.7	766.9	770.0	745.7	719.4	735.5	721.8	732.1
12.5°	906.2	923.3	881.0	854.0	851.6	832.8	784.3	767.3	749.2	767.9	758.4
15°	979.6	1011.4	966.0	918.5	864.9	835.9	794.6	768.6	756.7	760.8	749.2
17.5°	1087.2	1116.9	1001.5	928.8	873.4	830.8	767.6	712.3	741.6	744.0	730.7
20°	1158.6	1160.6	1013.4	903.5	853.6	779.5	718.1	669.6	703.4	737.9	752.9
22.5°	1228.2	1212.9	1028.1	883.3	781.6	709.9	679.8	676.8	702.0	731.1	734.5
25°	1280.5	1282.9	1036.7	875.8	739.3	641.6	641.6	663.8	686.0	755.0	751.5
27.5°	1407.1	1313.9	1003.5	841.3	680.5	601.6	641.9	671.6	682.2	757.0	764.5
30°	1499.3	1438.6	1010.4	782.3	621.1	582.9	616.0	653.2	682.6	769.0	766.2
32.5°	1654.0	1490.5	1026.4	699.3	576.7	575.7	605.1	644.3	679.5	756.0	760.1
35°	1825.1	1643.4	981.7	636.1	566.1	571.6	609.5	625.2	666.5	750.9	754.6
37.5°	2141.6	1723.3	953.3	587.3	559.3	575.0	589.4	613.6	655.3	725.3	749.8
40°	2327.4	1887.9	848.2	559.0	545.0	572.3	579.5	599.9	622.5	694.5	710.2
42.5°	2571.9	1939.8	758.4	527.6	537.8	561.0	582.5	587.6	602.7	646.0	674.7
45°	2775.7	1978.7	663.1	502.3	513.6	585.9	587.3	584.9	582.2	598.2	621.8
47.5°	2986.7	2083.2	575.4	474.3	504.3	606.4	589.7	567.8	556.6	558.6	580.5
50°	3219.6	2159.0	513.2	451.4	506.4	606.4	601.3	550.4	527.9	522.1	545.0
52.5°	3424.5	2167.9	466.1	433.0	497.8	585.6	609.2	539.5	501.6	487.6	509.1
55°	3536.1	2055.6	431.9	416.2	476.0	566.8	605.1	533.4	469.8	459.3	478.4
57.5°	3533.7	1869.1	402.9	393.0	451.1	540.5	582.2	499.9	450.4	444.2	463.0
60°	3406.4	1650.6	380.7	373.9	425.5	502.3	541.2	478.0	431.6	428.5	449.0
62.5°	3117.5	1424.9	359.2	353.7	401.6	475.3	521.7	453.8	412.1	411.8	431.3
65°	2553.1	1143.9	339.1	337.7	379.4	448.7	503.3	433.3	392.0	398.8	418.6
67.5°	1759.2	803.8	317.6	321.7	358.9	423.1	489.3	419.7	370.8	384.8	402.6
70°	965.3	497.2	293.7	301.8	332.9	393.4	467.5	397.5	343.2	364.7	377.0
72.5°	491.0	331.6	263.9	276.9	301.2	349.7	426.5	365.4	313.5	321.7	328.1
75°	329.8	249.6	230.8	245.2	262.6	308.0	378.3	335.3	285.1	284.1	291.3
77.5°	249.3	195.0	196.0	212.4	223.7	270.8	340.1	310.0	261.2	258.8	269.4
80°	182.3	147.9	157.8	174.8	185.1	243.1	315.2	282.0	228.8	219.2	228.1
82.5°	120.9	104.8	116.8	133.9	142.0	203.2	286.1	239.4	186.4	162.2	163.6
85°	57.0	55.0	69.7	77.9	88.4	126.0	214.1	165.6	118.8	98.3	102.8
87.5°	13.0	17.4	22.9	22.5	26.3	33.8	66.6	46.4	34.5	23.6	15.7
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)