

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: P367144

Luminaire Tested: **MSA-SA2A-727-U-T3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367144
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-10)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2A-727-U-T3
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6638 lumens
Efficiency: N/A
Efficacy: 100.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

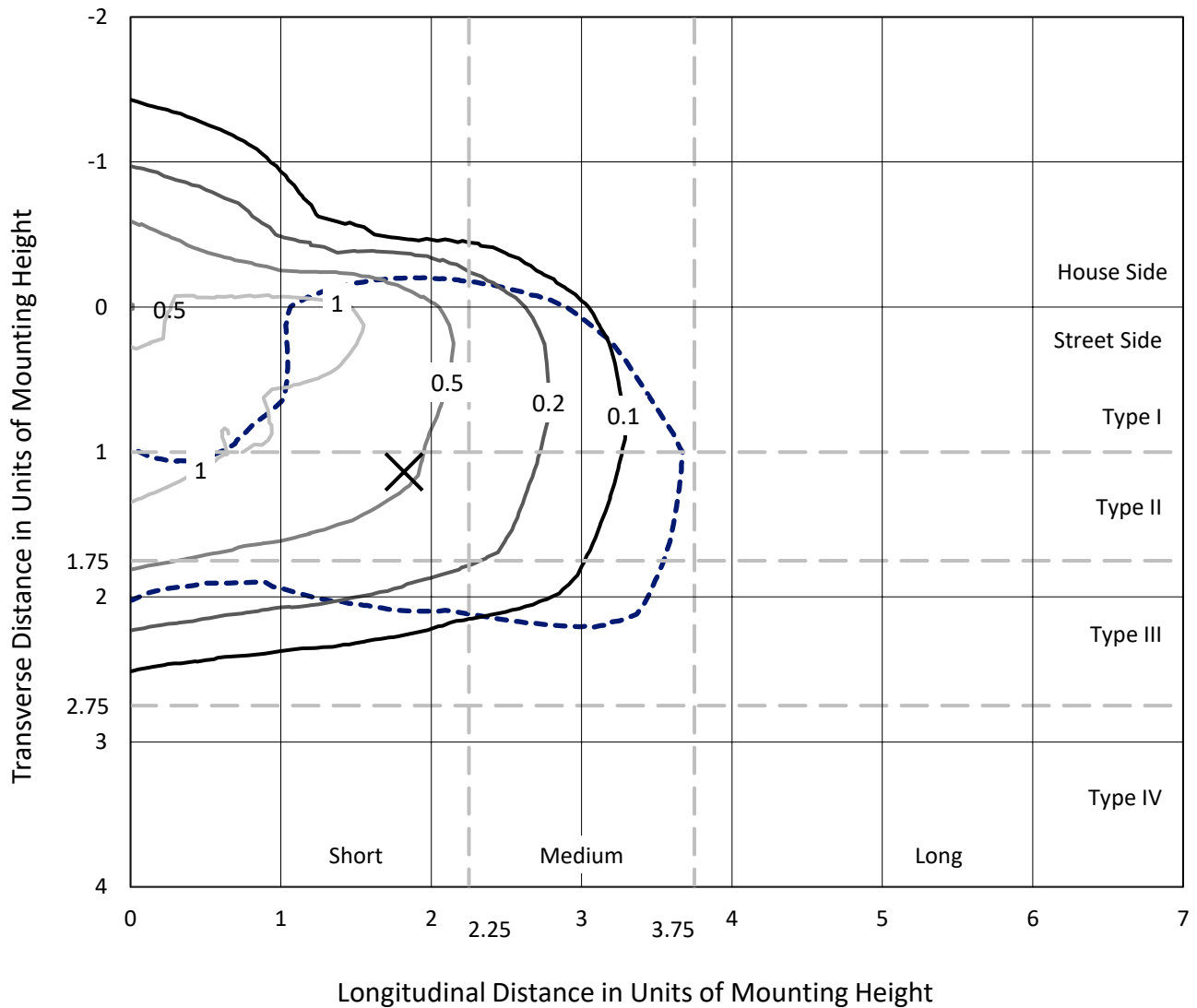
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

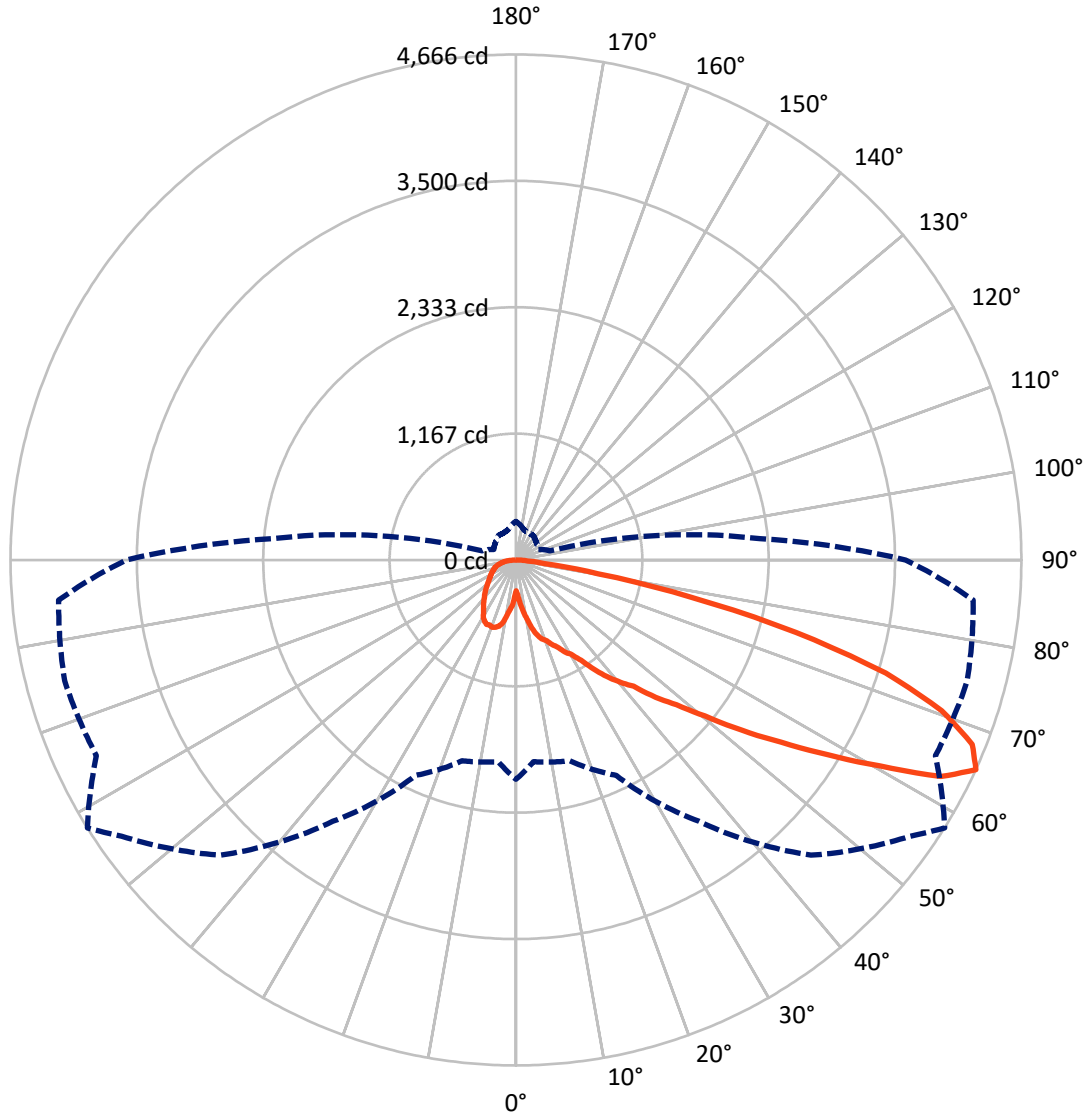
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.4 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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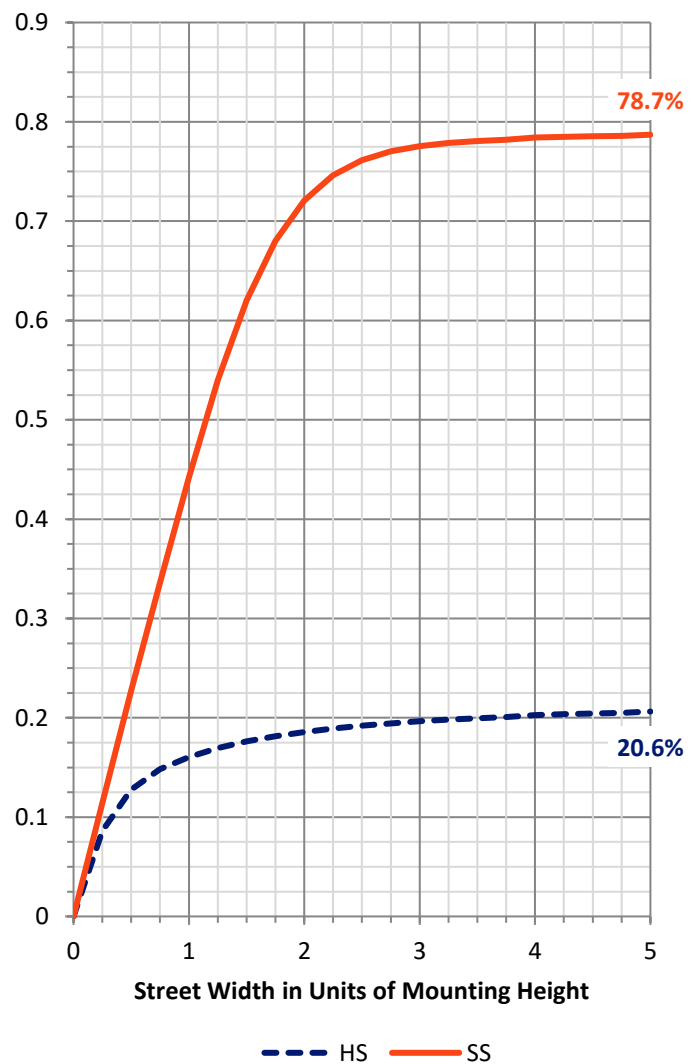
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1398.2	0.0	1398.2
	% Fixture	21.1	0.0	21.1
Street Side	Lumens	5239.8	0.0	5239.8
	% Fixture	78.9	0.0	78.9
Total	Lumens	6638.0	0.0	6638.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.4	0.7
10°-20°	189.4	2.9
20°-30°	363.5	5.5
30°-40°	600.1	9.0
40°-50°	997.5	15.0
50°-60°	1647.4	24.8
60°-70°	1848.0	27.8
70°-80°	840.3	12.7
80°-90°	108.4	1.6
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°	6638.0	100.0
0°-180°	6638.0	100.0



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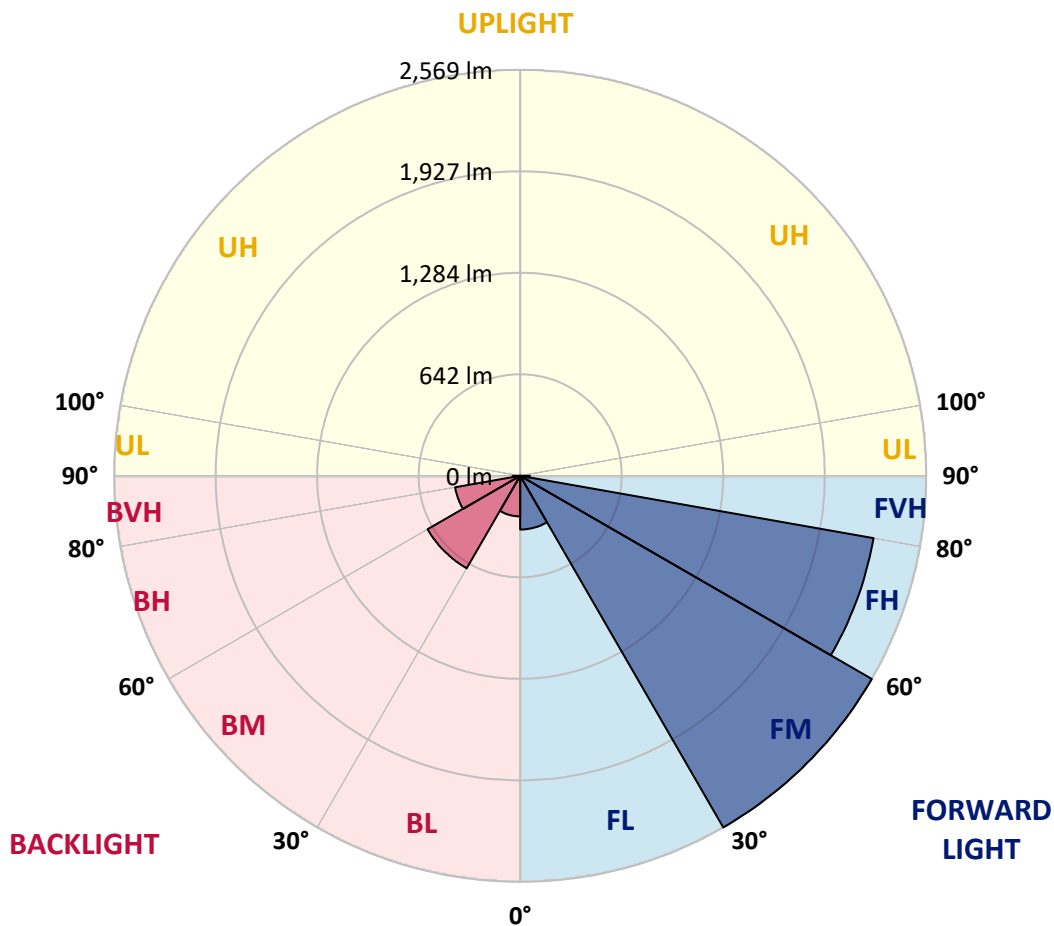
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	339.7	5.1			
FM (30°-60°)	2568.8	38.7			
FH (60°-80°)	2270.3	34.2			G2/5000
FVH (80°-90°)	61.0	0.9			G1/100
BL (0°-30°)	256.7	3.9	B1/500		
BM (30°-60°)	676.2	10.2	B1/1000		
BH (60°-80°)	417.9	6.3	B1/500		G1/500
BVH (80°-90°)	47.3	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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0
2.5°	340.3	330.1	312.9	317.1	327.0	332.6	329.2	324.8	319.0	317.9	343.3
5°	440.6	421.0	413.0	409.7	397.5	390.3	402.8	401.1	407.7	419.9	444.8
7.5°	513.9	500.1	486.8	485.4	461.9	453.6	470.2	479.1	491.0	491.2	525.0
10°	553.1	541.3	541.0	528.5	526.6	542.4	542.6	549.3	550.7	564.8	558.1
12.5°	595.7	594.9	610.1	609.8	627.5	653.5	640.5	640.5	644.4	627.2	648.2
15°	697.2	706.0	677.5	682.2	682.2	707.7	706.8	711.8	723.7	719.3	709.9
17.5°	802.8	808.3	776.8	747.5	749.7	744.2	764.1	766.0	754.7	806.1	794.8
20°	870.8	892.3	826.0	789.2	796.4	802.8	803.6	791.7	785.9	865.0	849.5
22.5°	954.8	936.6	875.7	835.1	845.9	837.3	835.7	844.8	852.8	882.7	907.8
25°	1010.9	1009.5	936.6	892.1	880.2	877.7	894.5	891.0	910.0	964.2	948.5
27.5°	1092.5	1117.9	988.5	999.6	947.3	892.3	946.5	962.8	997.1	988.3	1023.4
30°	1250.6	1231.5	1096.3	1093.3	1034.1	988.0	1025.6	1011.8	1073.4	1071.5	1097.5
32.5°	1379.7	1393.0	1223.0	1191.2	1147.2	1091.6	1066.8	1105.2	1138.4	1192.8	1207.5
35°	1516.3	1513.2	1352.6	1288.5	1215.8	1192.8	1223.5	1239.5	1310.0	1360.1	1325.2
37.5°	1728.6	1704.5	1520.7	1399.3	1344.9	1336.6	1389.1	1365.9	1442.2	1454.1	1473.7
40°	1925.9	1853.5	1674.4	1535.3	1448.8	1479.8	1481.4	1484.5	1525.4	1557.7	1654.7
42.5°	2113.6	2062.8	1830.6	1726.1	1598.6	1568.5	1587.3	1593.7	1697.0	1763.1	1897.5
45°	2370.2	2233.9	2055.0	1947.8	1805.1	1766.7	1753.4	1808.2	1908.0	2058.3	2173.6
47.5°	2587.2	2464.1	2293.6	2152.3	1992.8	2102.6	2027.4	1996.7	2130.8	2317.1	2500.6
50°	2767.1	2631.7	2464.4	2382.9	2357.4	2455.3	2260.1	2263.7	2386.5	2649.4	2859.7
52.5°	2906.4	2761.9	2613.7	2572.2	2714.3	2770.7	2629.7	2608.4	2698.0	3008.7	3261.4
55°	3036.6	2883.2	2768.8	2853.4	3092.8	3099.1	3089.2	2971.1	3078.9	3393.8	3677.2
57.5°	3070.1	2904.8	2828.8	2950.1	3273.8	3525.7	3624.6	3393.0	3502.7	3744.0	4033.2
60°	2897.9	2756.3	2725.9	2890.7	3371.7	3739.9	3998.4	3859.9	3818.7	4025.2	4282.5
62.5°	2545.1	2380.9	2405.5	2634.4	3268.6	3824.8	4293.6	4401.7	4152.3	4248.8	4391.5
65°	2025.7	1869.0	1918.7	2194.1	2944.9	3853.0	4444.5	4666.2	4272.9	4312.1	4237.2
67.5°	1428.6	1286.3	1349.0	1705.1	2449.8	3491.9	4470.5	4542.9	4144.6	4131.6	3815.9
70°	809.4	720.1	788.1	1085.0	1729.1	2781.8	4266.8	4171.4	3914.6	3730.5	3192.8
72.5°	371.3	340.6	373.2	552.3	995.4	1851.0	3483.4	3569.9	3373.1	3142.8	2429.0
75°	197.4	186.6	200.4	275.9	465.8	1007.1	2474.9	2669.5	2564.8	2383.7	1584.5
77.5°	146.8	138.5	145.1	178.9	248.8	393.9	1406.2	1651.7	1691.5	1524.8	879.9
80°	112.5	105.9	112.5	135.2	172.2	187.1	601.2	769.9	876.9	708.5	349.7
82.5°	83.5	79.1	89.3	101.5	121.1	116.9	213.4	265.7	342.5	234.1	136.3
85°	66.3	60.8	64.7	68.8	77.4	64.1	97.6	109.2	115.6	96.8	50.3
87.5°	26.0	24.0	47.0	37.0	31.5	19.4	29.3	33.2	34.0	32.6	14.7
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°	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0
2.5°	346.1	343.3	327.0	332.3	340.8	342.5	346.1	336.1	331.2	349.4	350.2
5°	447.0	432.1	424.3	425.2	419.6	411.1	424.1	432.6	435.9	449.5	454.5
7.5°	525.2	507.3	494.3	479.3	458.3	444.8	467.5	484.0	492.9	521.1	532.1
10°	560.1	545.7	542.9	524.1	523.6	523.3	522.2	516.4	535.5	532.7	540.4
12.5°	631.9	628.9	602.6	595.2	596.0	595.2	571.9	570.8	571.1	596.5	587.4
15°	698.8	699.4	675.3	648.2	623.9	616.5	607.3	603.2	609.3	623.6	614.8
17.5°	781.5	784.2	715.4	672.6	640.5	639.7	617.8	592.1	629.2	638.0	628.3
20°	834.8	823.2	738.6	666.8	657.6	632.8	605.7	570.3	602.4	623.9	630.0
22.5°	885.4	865.2	760.2	677.0	633.3	603.7	577.5	554.5	564.8	588.8	584.9
25°	919.7	914.2	790.1	701.6	632.5	566.7	531.3	516.7	521.9	559.2	555.6
27.5°	1001.5	941.8	784.8	708.0	605.9	516.1	498.4	482.7	477.4	517.8	528.8
30°	1056.3	1031.7	819.9	698.0	572.5	474.6	448.7	445.3	447.0	492.9	495.9
32.5°	1149.1	1085.3	877.4	659.9	523.8	444.0	414.1	415.5	422.9	456.4	463.3
35°	1245.9	1207.7	885.1	632.5	484.3	411.3	399.2	389.5	393.6	422.9	424.3
37.5°	1425.6	1293.7	932.7	590.2	455.3	398.9	375.7	367.1	369.3	385.9	397.8
40°	1583.7	1466.5	910.6	549.3	419.4	382.3	353.3	346.9	340.3	356.6	364.1
42.5°	1837.2	1589.8	903.1	504.2	402.5	359.9	340.0	323.2	316.8	330.6	344.2
45°	2090.7	1720.5	862.5	458.6	378.7	358.3	320.7	304.6	306.3	318.7	332.6
47.5°	2373.2	1896.1	793.6	414.4	352.7	350.2	301.3	294.4	299.4	313.2	327.0
50°	2707.1	2082.4	736.7	374.6	334.2	326.2	298.8	290.5	295.2	311.5	325.1
52.5°	3072.3	2286.7	695.2	337.8	313.2	307.1	302.1	294.1	299.7	313.8	327.9
55°	3435.3	2473.3	667.0	312.6	295.2	299.1	309.1	303.3	306.0	316.5	330.6
57.5°	3704.5	2571.7	610.4	285.8	280.6	294.4	309.9	300.2	301.9	316.5	331.7
60°	3861.0	2590.5	517.2	264.0	269.0	285.0	301.3	288.9	287.8	311.8	330.9
62.5°	3843.8	2481.3	410.2	244.1	255.7	270.9	288.3	276.4	279.5	312.4	332.6
65°	3598.4	2258.2	326.2	227.2	239.7	255.4	277.5	272.8	287.5	334.5	356.3
67.5°	3167.1	1932.3	262.1	211.5	224.7	244.9	285.0	297.4	303.8	357.2	379.5
70°	2566.7	1501.3	218.4	197.7	212.9	249.9	306.6	304.1	298.8	346.4	364.1
72.5°	1854.3	1029.2	192.1	184.1	198.2	235.0	307.1	293.9	287.2	316.2	329.0
75°	1160.2	614.0	167.8	167.0	175.8	210.6	293.3	281.4	263.4	277.8	294.4
77.5°	662.6	314.3	141.3	148.7	154.0	182.7	262.6	251.8	235.8	241.9	258.2
80°	252.9	152.0	119.1	132.1	130.8	154.8	222.5	220.0	201.8	203.7	213.7
82.5°	119.1	85.1	99.0	113.6	106.2	123.3	180.8	180.0	163.9	148.4	156.5
85°	44.2	45.3	72.4	86.5	73.8	79.6	130.8	127.2	111.7	94.3	104.2
87.5°	10.0	16.3	35.7	45.1	25.7	24.6	52.8	45.9	44.2	26.3	27.6
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)