

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: P367410

Luminaire Tested: **MSA-SA2C-727-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367410  
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-SA2C-727-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: 10341 lumens  
Efficiency: N/A  
Efficacy: 91.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3

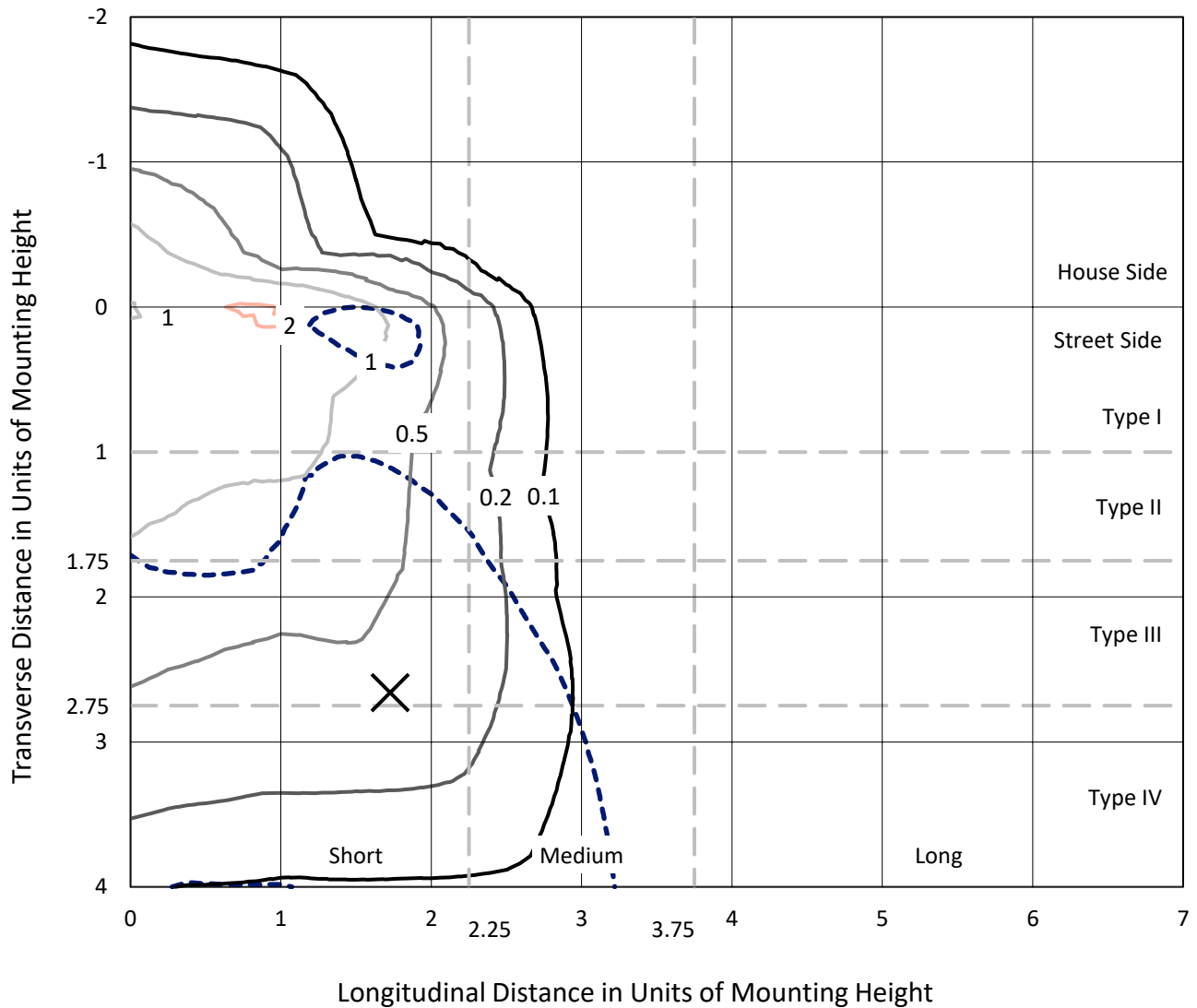
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

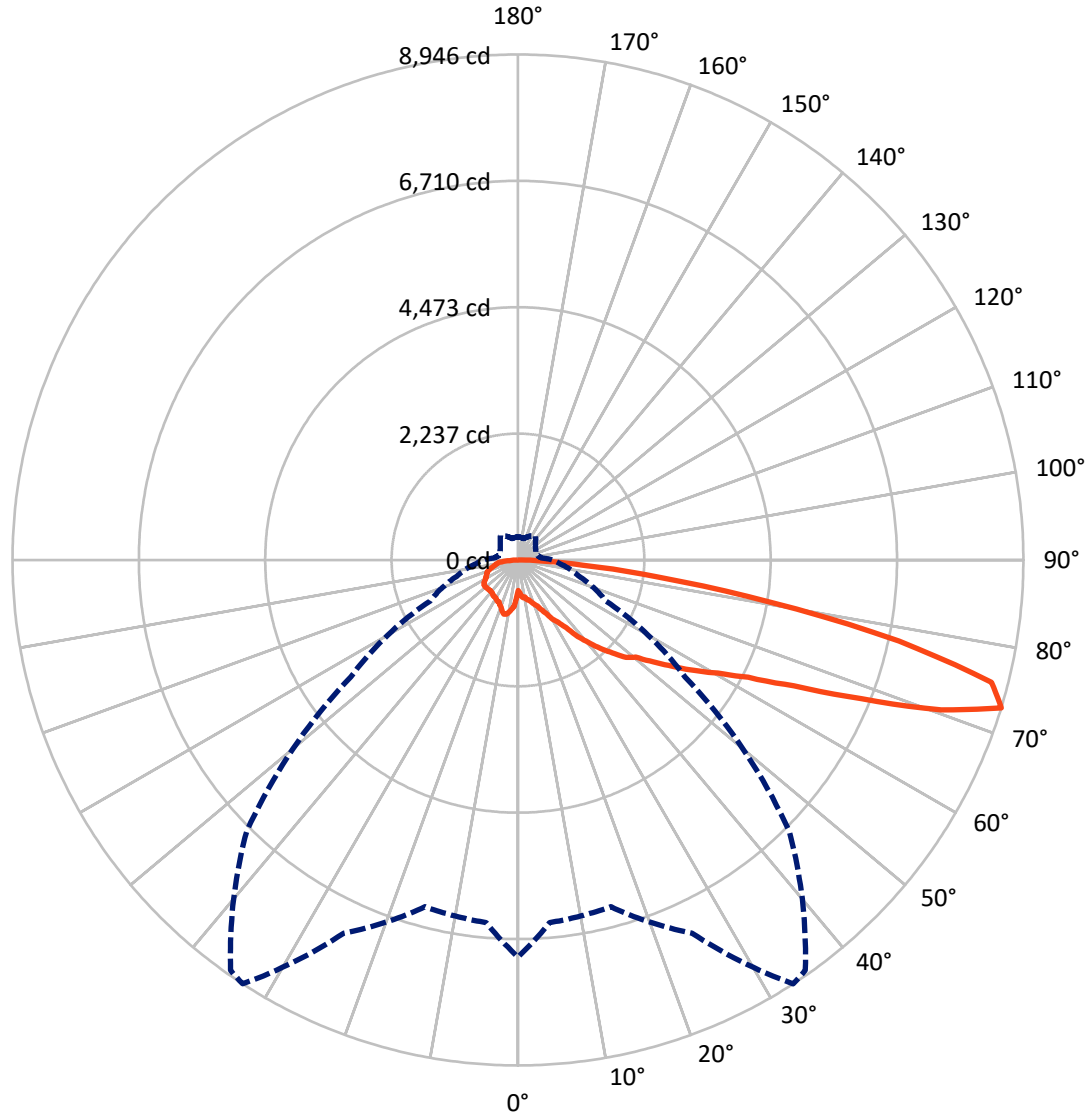
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 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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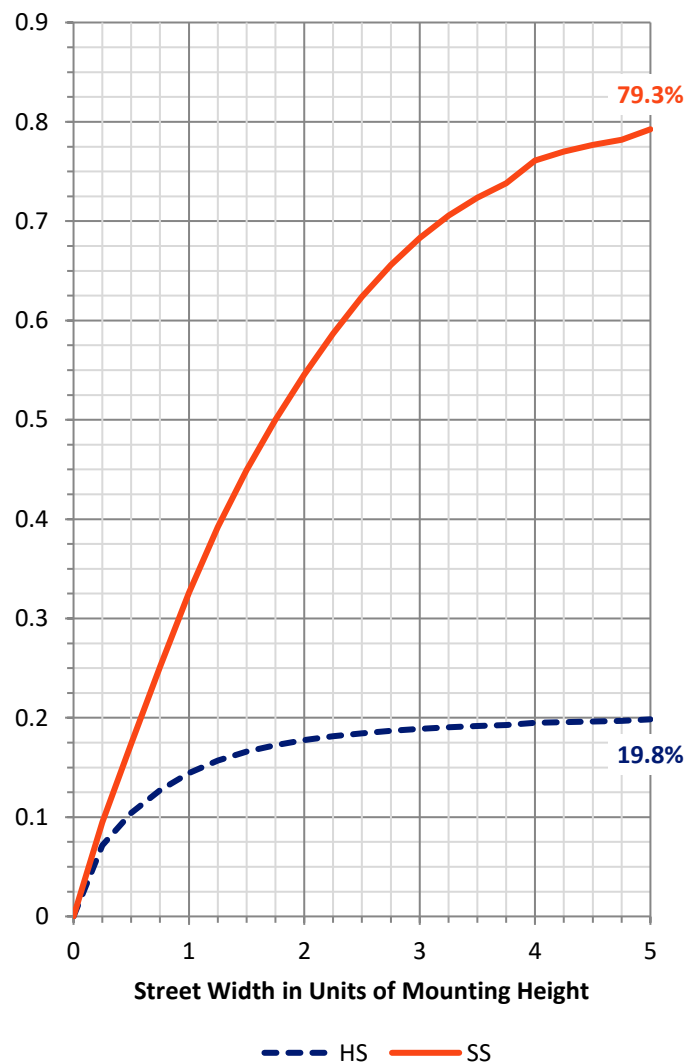
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2092.0	0.0	2092.0
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	8249.0	0.0	8249.0
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	10341.0	0.0	10341.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.6	0.7
10°-20°	275.5	2.7
20°-30°	502.4	4.9
30°-40°	850.0	8.2
40°-50°	1414.1	13.7
50°-60°	2075.3	20.1
60°-70°	2654.8	25.7
70°-80°	2159.9	20.9
80°-90°	334.5	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°	10341.0	100.0
0°-180°	10341.0	100.0

**Coefficient of Utilization**

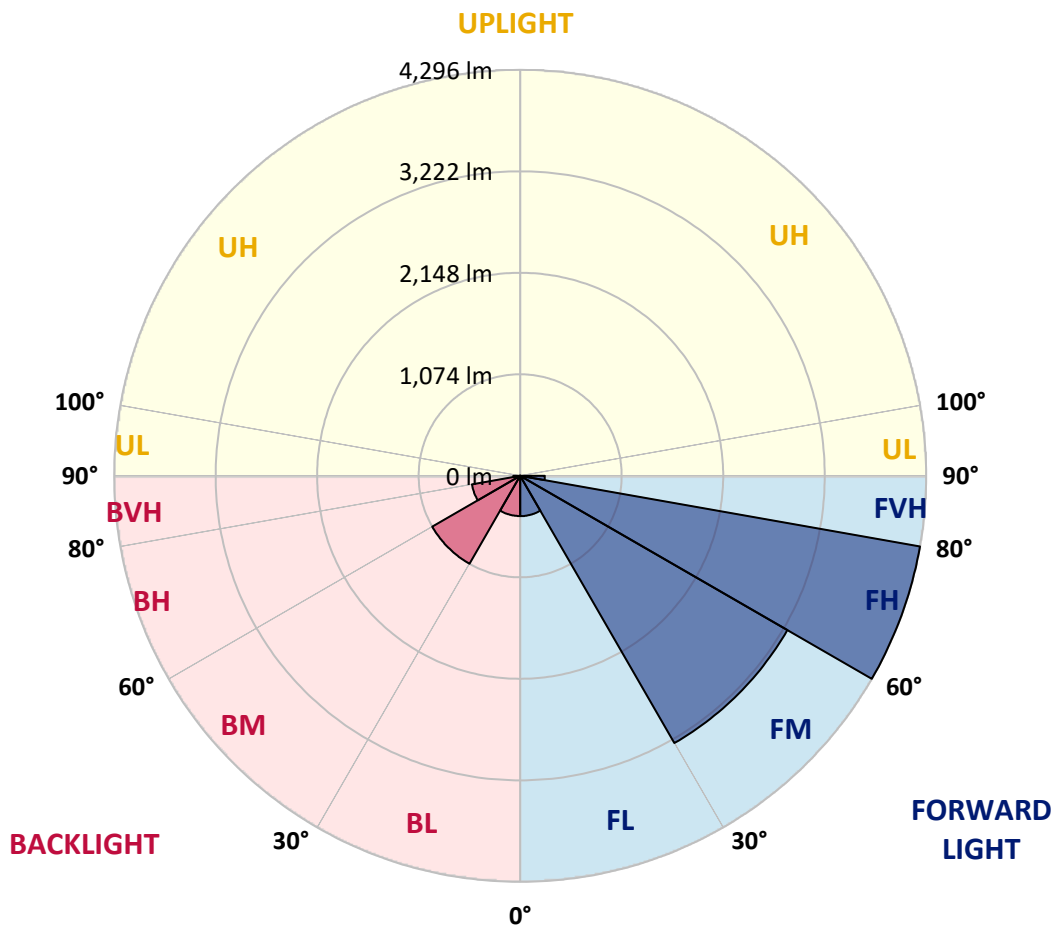


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	426.8	4.1			
FM (30°-60°)	3264.9	31.6			
FH (60°-80°)	4296.3	41.5			G2/5000
FVH (80°-90°)	261.1	2.5			G3/500
BL (0°-30°)	425.8	4.1	B1/500		
BM (30°-60°)	1074.4	10.4	B2/2500		
BH (60°-80°)	518.3	5.0	B2/1000		G2/1000
BVH (80°-90°)	73.4	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2
2.5°	614.7	595.4	563.7	562.8	580.4	584.3	595.9	596.7	601.0	594.1	643.1
5°	678.2	657.6	645.2	649.5	641.3	651.2	651.2	679.5	717.3	761.0	823.2
7.5°	693.2	678.2	664.1	674.8	676.5	667.1	676.1	742.6	810.8	854.5	954.1
10°	663.2	648.2	658.9	662.4	661.9	683.4	730.1	783.3	859.3	939.9	993.5
12.5°	657.6	668.4	673.5	679.5	720.3	726.7	797.5	852.4	928.8	999.5	1139.0
15°	740.4	754.6	722.8	720.7	734.0	740.0	813.4	868.7	980.2	1099.1	1224.3
17.5°	858.4	863.6	806.5	777.3	787.2	791.9	824.1	893.6	962.2	1181.9	1338.0
20°	972.5	975.9	868.7	803.5	838.2	843.4	873.4	913.3	967.4	1228.2	1414.8
22.5°	1092.2	1070.3	952.8	870.4	890.6	891.9	909.5	931.3	1008.1	1220.9	1508.3
25°	1223.0	1209.3	1061.3	982.4	981.5	963.9	964.8	996.1	1051.5	1299.0	1569.7
27.5°	1396.8	1398.5	1183.6	1141.1	1074.6	1063.0	1005.1	1063.5	1126.5	1299.8	1702.2
30°	1622.0	1580.4	1353.9	1285.3	1219.6	1195.2	1116.7	1166.4	1193.9	1374.1	1846.4
32.5°	1805.2	1793.2	1531.5	1427.7	1320.4	1348.7	1262.1	1218.3	1267.7	1501.9	2064.7
35°	1980.6	1941.2	1719.4	1584.3	1471.4	1454.3	1398.1	1405.4	1435.4	1663.6	2350.0
37.5°	2242.3	2220.9	1985.4	1769.1	1716.4	1646.5	1610.9	1633.6	1610.0	1870.8	2777.7
40°	2534.9	2410.5	2207.6	2015.0	1916.3	1867.0	1879.4	1858.0	1839.9	2103.3	3161.2
42.5°	2815.0	2701.8	2355.1	2268.5	2139.8	2160.4	2092.2	2107.2	2158.2	2433.2	3516.0
45°	3120.0	2875.1	2511.7	2435.4	2343.1	2369.3	2423.8	2407.5	2491.1	2822.3	3850.2
47.5°	3272.3	3039.4	2703.9	2579.5	2578.2	2523.7	2855.3	2891.4	2760.5	3110.6	4189.5
50°	3419.0	3190.0	2846.8	2762.7	2701.8	2818.5	3269.3	3186.5	3004.2	3441.3	4562.7
52.5°	3623.2	3362.0	3010.6	2921.0	2996.5	3104.6	3599.6	3583.3	3243.2	3781.5	4887.0
55°	3779.0	3515.1	3257.3	3174.1	3318.2	3424.2	3936.0	3837.7	3447.8	4031.2	5092.5
57.5°	4051.8	3781.1	3621.5	3436.6	3695.7	3694.0	4260.3	4184.4	3666.6	4236.3	5175.3
60°	4485.5	4167.6	4000.7	3787.5	4065.1	4164.2	4630.9	4412.1	3821.4	4365.8	5026.0
62.5°	5094.2	4716.7	4446.0	4235.0	4573.4	4752.8	5088.7	4578.2	3831.3	4328.9	4633.5
65°	5847.1	5388.1	5033.3	4810.3	5368.8	5624.9	5642.1	4680.7	3740.4	3947.6	3808.1
67.5°	6581.5	6065.5	5695.3	5737.7	6553.2	6674.6	6241.8	4766.5	3251.7	3169.8	2644.3
70°	7065.0	6505.6	6258.9	6709.4	7948.3	7823.9	6727.8	4540.4	2560.6	2054.9	1489.0
72.5°	7028.6	6443.0	6354.2	7286.8	8946.1	8868.5	6787.0	3610.8	1715.1	1123.5	742.6
75°	5726.1	5271.0	5472.6	6898.1	8658.7	8654.8	5892.6	2235.0	879.9	577.0	469.3
77.5°	3165.9	2989.2	3581.6	5222.9	6894.3	6929.5	3981.4	1013.7	474.5	408.8	353.5
80°	1108.9	1092.6	1552.1	2818.5	4535.3	4543.8	1851.5	463.7	344.9	309.3	259.5
82.5°	405.4	402.0	643.5	1309.3	2497.1	2491.6	702.3	288.7	255.7	218.8	171.2
85°	161.7	158.3	294.3	581.3	1147.1	1128.7	272.8	163.9	167.3	130.4	84.1
87.5°	44.6	46.3	100.0	181.9	351.3	325.6	68.6	55.3	67.8	53.2	26.6
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°	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2
2.5°	651.6	655.9	613.5	628.5	647.8	658.1	663.2	641.3	648.6	679.5	678.2
5°	836.1	818.9	802.6	819.4	808.2	792.3	818.1	816.8	833.5	850.3	854.1
7.5°	973.8	951.5	943.8	906.0	868.3	830.1	863.1	883.7	888.0	929.6	947.2
10°	1023.6	1015.0	1018.0	968.2	963.5	967.4	936.9	903.9	924.0	906.9	919.8
12.5°	1138.5	1160.0	1106.8	1072.9	1069.9	1046.3	985.4	963.9	941.2	964.8	952.8
15°	1230.8	1270.7	1213.6	1154.0	1086.6	1050.2	998.3	965.7	950.6	955.8	941.2
17.5°	1365.9	1403.2	1258.2	1166.8	1097.4	1043.7	964.4	894.9	931.8	934.8	918.0
20°	1455.6	1458.1	1273.2	1135.1	1072.5	979.4	902.2	841.2	883.7	927.0	945.9
22.5°	1543.1	1523.8	1291.7	1109.8	982.0	891.9	854.1	850.3	882.0	918.5	922.8
25°	1608.7	1611.7	1302.4	1100.4	928.8	806.1	806.1	834.0	861.8	948.5	944.2
27.5°	1767.9	1650.7	1260.8	1057.0	855.0	755.9	806.5	843.8	857.1	951.1	960.5
30°	1883.7	1807.3	1269.4	982.8	780.3	732.3	773.9	820.7	857.5	966.1	962.7
32.5°	2078.0	1872.5	1289.5	878.6	724.6	723.3	760.2	809.5	853.7	949.8	954.9
35°	2292.9	2064.7	1233.3	799.2	711.3	718.1	765.7	785.5	837.4	943.3	948.1
37.5°	2690.6	2165.1	1197.7	737.9	702.7	722.4	740.4	770.9	823.2	911.2	942.1
40°	2924.0	2371.9	1065.6	702.3	684.7	719.0	728.0	753.7	782.0	872.6	892.3
42.5°	3231.1	2437.1	952.8	662.8	675.7	704.8	731.9	738.3	757.2	811.6	847.7
45°	3487.2	2486.0	833.1	631.0	645.2	736.1	737.9	734.9	731.4	751.6	781.2
47.5°	3752.4	2617.3	722.8	595.9	633.6	761.9	740.9	713.4	699.3	701.8	729.3
50°	4044.9	2712.5	644.8	567.1	636.2	761.9	755.4	691.5	663.2	655.9	684.7
52.5°	4302.3	2723.6	585.6	544.0	625.5	735.7	765.3	677.8	630.2	612.6	639.6
55°	4442.6	2582.5	542.7	522.9	598.0	712.1	760.2	670.1	590.3	577.0	601.0
57.5°	4439.6	2348.3	506.2	493.8	566.7	679.1	731.4	628.0	565.8	558.1	581.7
60°	4279.6	2073.7	478.3	469.7	534.5	631.0	679.9	600.6	542.2	538.4	564.1
62.5°	3916.7	1790.2	451.3	444.4	504.5	597.2	655.5	570.1	517.8	517.4	541.8
65°	3207.5	1437.1	426.0	424.3	476.6	563.7	632.3	544.4	492.5	501.1	525.9
67.5°	2210.2	1009.8	399.0	404.1	450.9	531.5	614.7	527.2	465.9	483.5	505.8
70°	1212.8	624.6	368.9	379.2	418.3	494.2	587.3	499.3	431.1	458.2	473.6
72.5°	616.9	416.5	331.6	347.9	378.4	439.3	535.8	459.0	393.8	404.1	412.3
75°	414.4	313.6	290.0	308.0	329.9	386.9	475.3	421.3	358.2	356.9	365.9
77.5°	313.2	245.0	246.2	266.8	281.0	340.2	427.3	389.5	328.2	325.2	338.5
80°	229.1	185.8	198.2	219.6	232.5	305.4	396.0	354.3	287.4	275.4	286.6
82.5°	151.9	131.7	146.7	168.2	178.5	255.2	359.5	300.7	234.2	203.8	205.5
85°	71.6	69.1	87.5	97.8	111.1	158.3	269.0	208.1	149.3	123.5	129.1
87.5°	16.3	21.9	28.7	28.3	33.0	42.5	83.7	58.3	43.3	29.6	19.7
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)