

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: P596610

Luminaire Tested: **MSA-SA2C-827-U-RW**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596610  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2C-827-U-RW  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9313 lumens  
Efficiency: N/A  
Efficacy: 82.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3

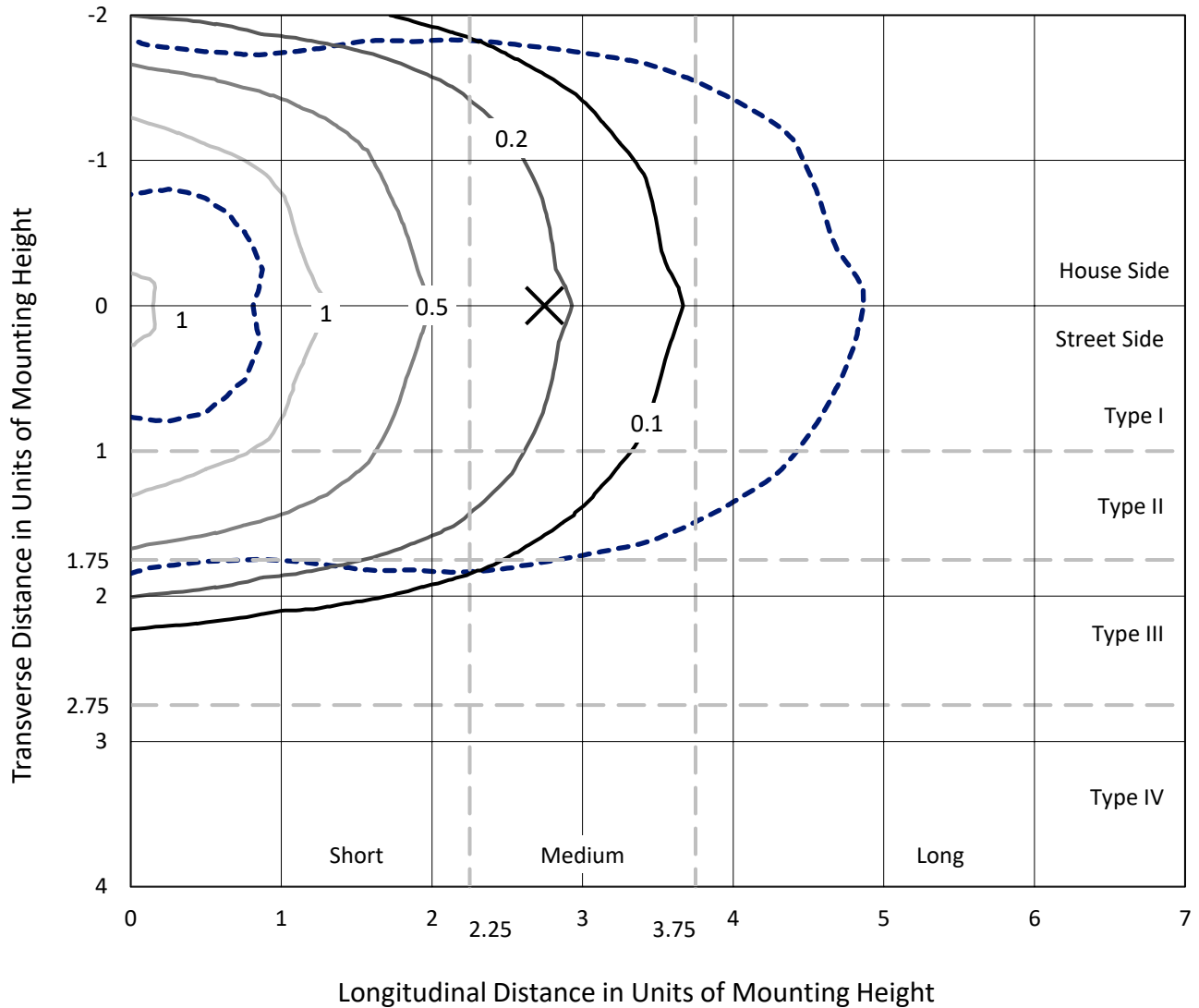
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

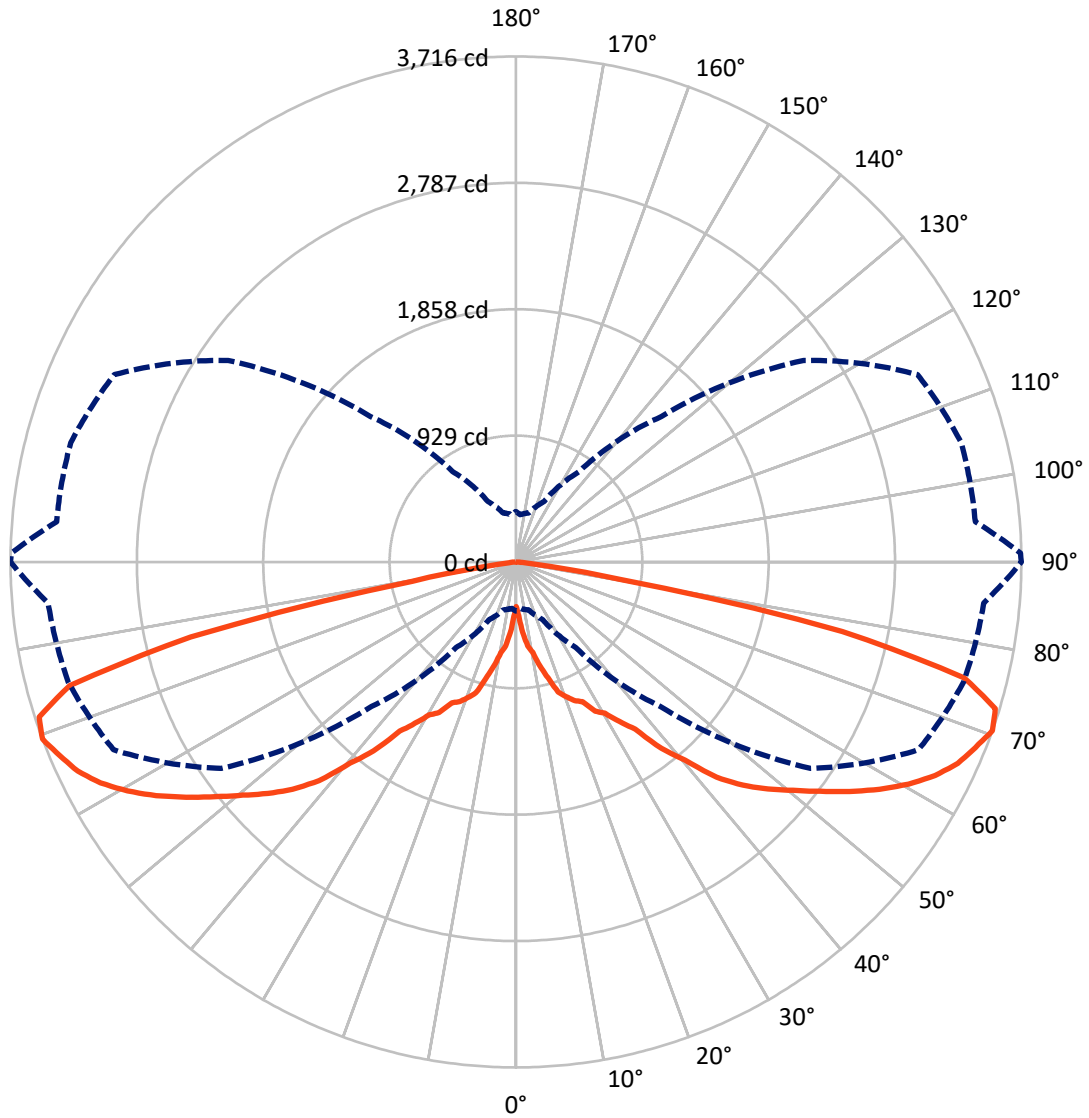
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.5 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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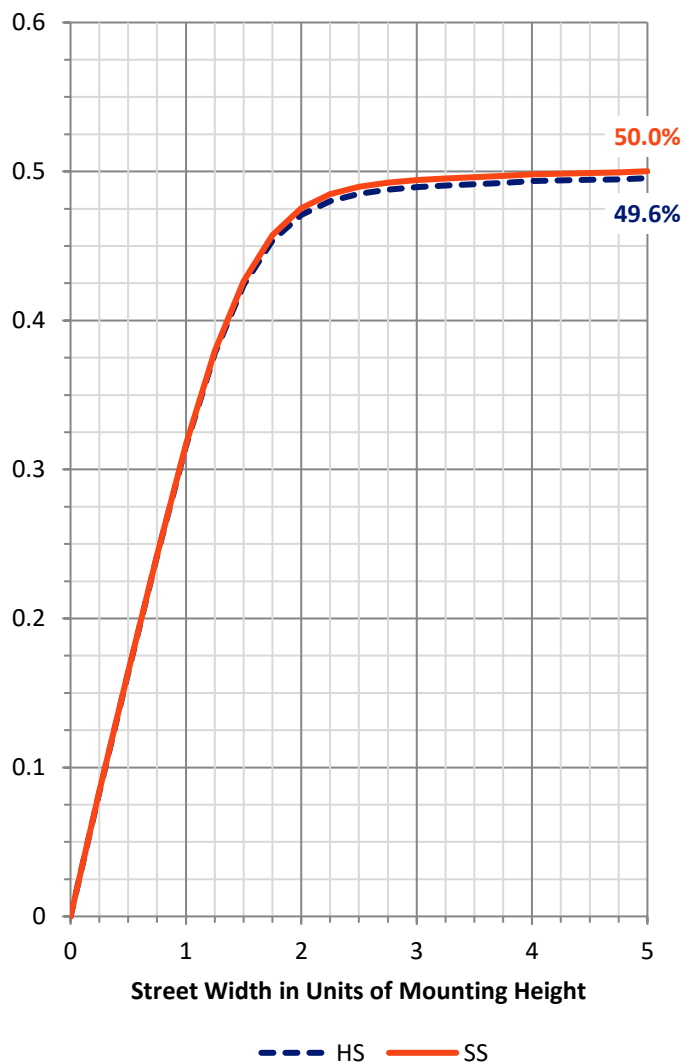
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4639.3	0.0	4639.3
	% Fixture	49.8	0.0	49.8
<b>Street Side</b>	Lumens	4673.7	0.0	4673.7
	% Fixture	50.2	0.0	50.2
<b>Total</b>	Lumens	9313.0	0.0	9313.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.3	0.5
10°-20°	226.0	2.4
20°-30°	488.6	5.2
30°-40°	932.2	10.0
40°-50°	1693.6	18.2
50°-60°	2379.1	25.5
60°-70°	2271.5	24.4
70°-80°	1165.8	12.5
80°-90°	106.9	1.1
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°	9313.0	100.0
0°-180°	9313.0	100.0

**Coefficient of Utilization**



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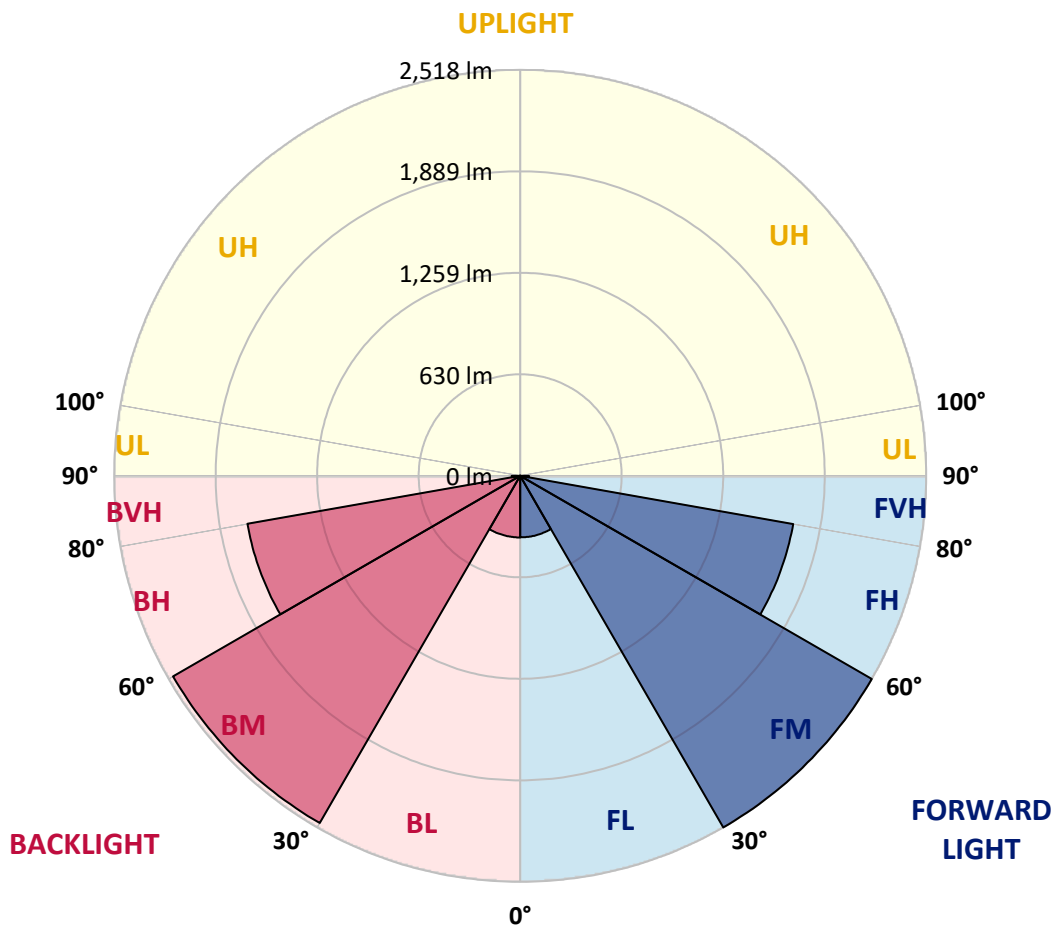
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	381.6	4.1			
FM (30°-60°)	2518.3	27.0			
FH (60°-80°)	1719.6	18.5			G1/1800
FVH (80°-90°)	54.2	0.6			G1/100
BL (0°-30°)	382.3	4.1	B1/500		
BM (30°-60°)	2486.6	26.7	B2/2500		
BH (60°-80°)	1717.7	18.4	B3/2500		G3/2500
BVH (80°-90°)	52.6	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9
2.5°	395.9	381.2	362.7	373.7	378.2	386.1	385.0	381.2	365.0	392.2	395.2
5°	495.6	472.2	463.5	462.0	464.3	456.7	481.2	474.1	487.3	511.8	517.5
7.5°	564.3	546.9	528.4	534.1	510.7	507.3	539.0	567.3	574.5	619.4	622.4
10°	596.7	579.8	584.7	581.3	578.6	600.5	615.2	636.0	665.8	670.0	676.4
12.5°	624.3	631.1	652.6	651.8	687.3	726.2	720.5	742.1	747.0	799.0	783.2
15°	694.1	708.1	706.6	719.8	735.3	799.0	799.4	836.0	869.6	890.0	884.7
17.5°	796.4	801.3	780.9	781.7	826.6	852.6	881.7	875.3	962.9	1002.9	1005.5
20°	857.5	870.0	846.6	815.7	895.3	931.2	947.4	910.0	1003.6	1057.6	1057.6
22.5°	964.4	932.3	896.8	876.0	946.2	984.4	982.5	971.9	1021.7	1117.2	1108.2
25°	1023.2	1005.1	987.4	992.7	1028.2	1047.8	1073.8	1049.3	1096.1	1167.1	1137.2
27.5°	1135.0	1101.4	1014.2	1083.6	1083.6	1068.9	1124.0	1135.7	1105.2	1220.6	1242.9
30°	1261.4	1249.7	1126.3	1199.9	1177.2	1135.7	1241.4	1233.9	1182.5	1300.3	1290.1
32.5°	1381.1	1419.6	1302.6	1262.2	1296.1	1312.0	1256.5	1279.2	1289.0	1402.6	1397.7
35°	1564.5	1597.0	1441.8	1431.6	1375.0	1360.3	1402.6	1410.1	1410.9	1530.5	1508.6
37.5°	1881.9	1835.1	1681.9	1609.8	1616.2	1598.5	1606.8	1547.1	1555.4	1729.1	1740.0
40°	2114.1	2061.2	1890.6	1838.9	1712.1	1787.9	1720.8	1714.7	1698.1	1923.1	1917.0
42.5°	2370.3	2297.9	2109.1	2040.1	1905.3	1874.4	1843.4	1913.3	1908.7	2117.1	2163.1
45°	2564.0	2417.5	2319.0	2276.0	2195.2	2119.3	2089.9	2121.2	2106.9	2261.6	2342.0
47.5°	2686.3	2559.1	2445.8	2355.2	2277.9	2463.9	2314.9	2273.0	2243.9	2417.1	2494.5
50°	2783.6	2636.8	2503.2	2473.0	2534.1	2698.7	2463.6	2371.1	2406.6	2534.1	2639.5
52.5°	2810.1	2654.6	2534.5	2515.3	2680.6	2710.4	2672.3	2516.8	2507.4	2674.6	2801.8
55°	2729.3	2580.2	2523.2	2628.5	2811.2	2786.3	2844.4	2745.1	2678.3	2818.0	2978.0
57.5°	2521.3	2373.4	2359.8	2511.5	2741.7	2953.9	2982.6	2904.0	2816.5	2964.4	3153.2
60°	2179.7	2044.6	2079.0	2246.5	2593.8	2895.7	3048.2	2976.5	2949.3	3096.5	3315.5
62.5°	1647.9	1542.6	1634.3	1868.0	2323.5	2820.6	3138.8	3127.5	3088.2	3236.9	3458.9
65°	1050.8	995.3	1088.9	1326.3	1904.2	2684.0	3182.2	3197.3	3233.5	3345.3	3569.9
67.5°	610.7	581.3	638.3	832.6	1356.2	2203.9	3101.4	3318.1	3337.0	3401.1	3642.7
70°	361.2	342.0	365.4	467.7	767.7	1501.5	2645.5	3265.3	3407.9	3452.5	3716.3
72.5°	275.5	257.4	247.2	276.7	400.8	775.6	1788.7	2767.8	3350.9	3418.5	3685.3
75°	238.2	220.8	208.7	211.4	238.5	368.4	969.6	1979.7	2855.4	3112.8	3404.2
77.5°	204.6	189.1	180.4	179.7	183.1	202.3	405.4	1073.4	1788.3	2237.5	2454.1
80°	163.8	151.7	149.8	149.8	144.9	143.4	201.6	408.4	680.5	807.0	773.8
82.5°	119.6	107.6	119.6	118.1	110.6	104.6	128.3	176.6	209.9	165.7	131.0
85°	80.8	69.8	78.9	80.4	73.2	54.4	77.0	88.3	90.6	56.6	46.8
87.5°	28.3	27.6	44.5	38.9	31.7	18.5	28.3	30.6	32.1	20.0	13.6
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):**

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9
2.5°	396.3	391.8	369.1	372.5	381.2	385.4	389.5	372.5	364.2	390.7	388.0
5°	519.0	502.4	483.9	481.2	482.4	466.1	475.6	471.4	473.3	490.3	493.7
7.5°	621.6	601.6	577.1	557.9	524.6	498.2	520.5	531.8	535.2	565.4	576.7
10°	677.1	660.1	653.0	616.7	605.8	602.4	597.1	579.0	599.0	591.8	597.5
12.5°	785.8	782.4	745.1	721.3	723.6	730.0	696.8	678.6	652.6	693.4	678.6
15°	878.3	893.0	855.7	812.3	790.7	801.7	776.4	750.0	726.6	739.0	723.2
17.5°	996.4	996.1	923.2	876.8	874.9	874.2	836.8	778.7	806.6	797.9	798.7
20°	1059.1	1048.9	958.3	904.7	950.4	934.2	900.6	825.8	858.3	868.9	875.7
22.5°	1111.6	1105.9	996.1	956.8	986.3	986.6	953.0	913.8	909.6	942.5	924.7
25°	1148.2	1170.8	1067.4	1058.0	1070.8	1058.0	1025.1	999.5	982.9	1031.9	982.9
27.5°	1235.0	1202.9	1078.4	1132.0	1139.9	1075.3	1116.5	1086.3	1040.2	1101.0	1121.0
30°	1296.9	1315.8	1155.4	1236.1	1226.7	1167.1	1184.0	1182.9	1127.8	1246.3	1232.3
32.5°	1403.3	1380.7	1281.0	1274.6	1297.3	1294.6	1265.9	1279.9	1293.5	1379.6	1400.3
35°	1512.4	1536.6	1361.4	1404.8	1398.4	1357.7	1432.8	1424.1	1464.5	1641.1	1582.6
37.5°	1758.5	1643.4	1541.9	1536.2	1579.2	1585.6	1561.5	1599.6	1686.8	1822.7	1885.3
40°	1919.7	1867.2	1694.7	1701.5	1641.9	1744.5	1676.6	1799.3	1865.7	2094.8	2072.5
42.5°	2163.5	2035.5	1869.9	1892.5	1880.4	1831.0	1920.4	1983.5	2078.6	2253.3	2366.2
45°	2345.1	2169.5	2091.0	2077.1	2075.6	2161.6	2150.3	2251.1	2285.0	2416.4	2510.0
47.5°	2482.8	2333.7	2217.5	2233.3	2187.3	2433.0	2302.0	2333.3	2402.0	2525.8	2634.9
50°	2646.2	2480.2	2348.1	2387.3	2499.4	2593.8	2475.3	2421.7	2455.3	2601.3	2722.9
52.5°	2797.6	2622.8	2477.5	2510.4	2693.4	2650.4	2637.6	2502.1	2497.9	2615.3	2753.4
55°	2974.6	2777.6	2649.3	2753.4	2818.4	2765.1	2744.8	2579.8	2477.9	2543.2	2673.4
57.5°	3148.2	2930.8	2803.3	2824.8	2907.1	2854.2	2701.4	2447.3	2320.1	2333.0	2464.7
60°	3310.9	3071.6	2966.3	2945.6	3011.2	2804.0	2536.4	2204.6	2035.9	2005.0	2119.0
62.5°	3450.2	3189.4	3089.7	3033.1	3095.8	2805.9	2279.4	1815.1	1629.8	1524.9	1613.6
65°	3560.8	3287.1	3216.2	3186.7	3209.4	2635.3	1878.9	1332.7	1105.5	989.3	1041.0
67.5°	3634.4	3341.9	3309.4	3347.9	3046.0	2194.8	1392.0	853.0	642.8	579.4	611.8
70°	3710.6	3390.2	3389.1	3258.1	2582.8	1513.2	813.0	491.8	374.0	349.5	369.9
72.5°	3685.0	3332.8	3349.8	2849.3	1789.8	808.9	429.2	278.2	253.3	261.9	280.1
75°	3412.5	3030.1	2948.2	2048.4	1015.3	375.9	247.2	210.6	209.1	222.3	240.1
77.5°	2475.3	2110.3	1893.6	1161.0	435.2	203.4	181.9	175.9	175.9	186.5	202.3
80°	816.0	706.2	736.0	449.2	205.7	140.4	141.9	144.6	143.8	146.4	159.7
82.5°	134.0	138.9	214.8	183.4	124.2	95.9	107.2	112.5	114.0	101.9	115.9
85°	47.6	53.6	91.3	84.9	71.7	48.3	70.6	78.9	77.8	67.9	75.1
87.5°	14.7	18.9	33.2	25.7	21.5	13.2	26.4	31.0	38.9	15.9	14.3
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)