

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: P367636

Luminaire Tested: **MSA-SA2D-830-U-RW**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367636
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2D-830-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: 11007 lumens
Efficiency: N/A
Efficacy: 85.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G3

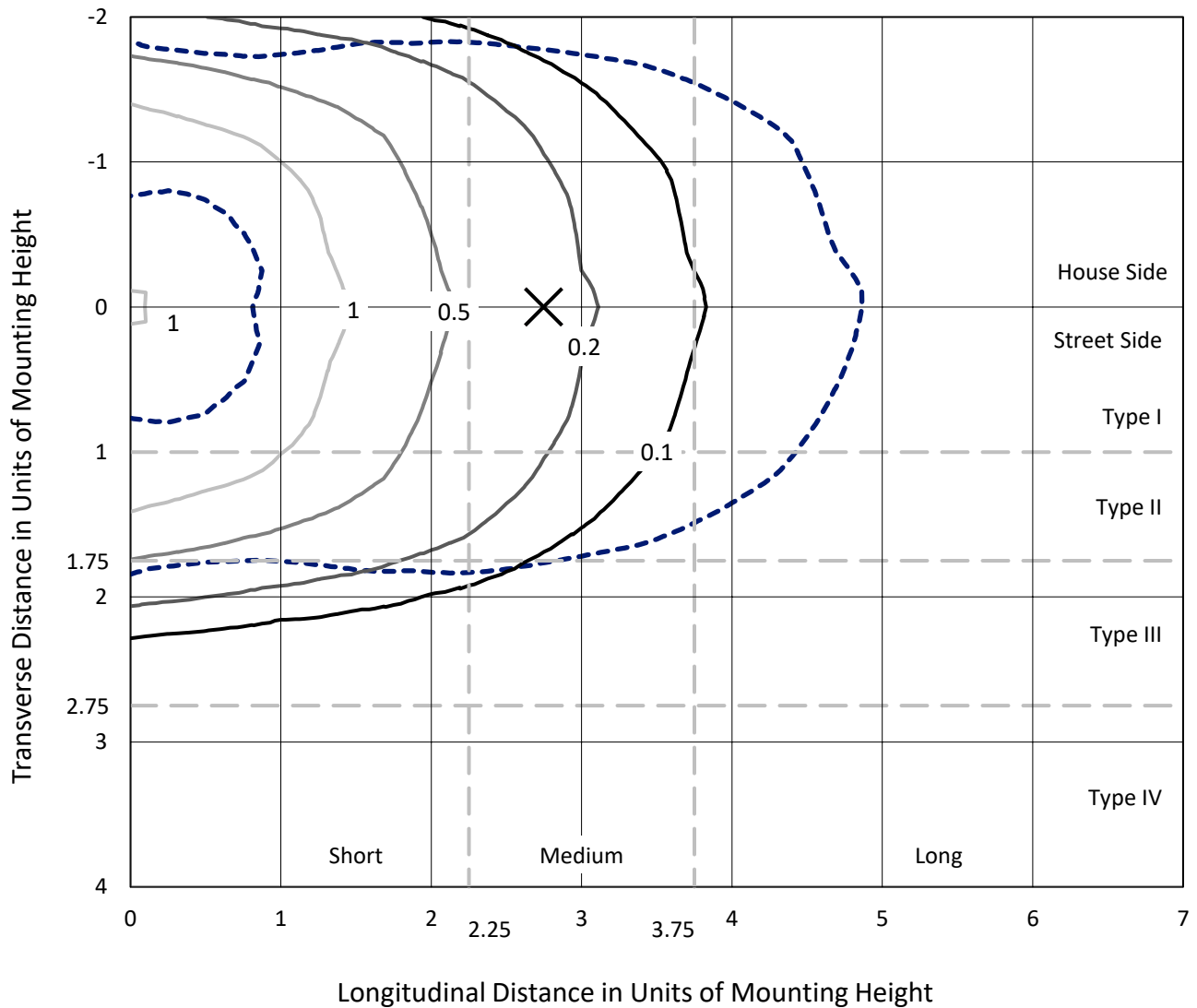
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

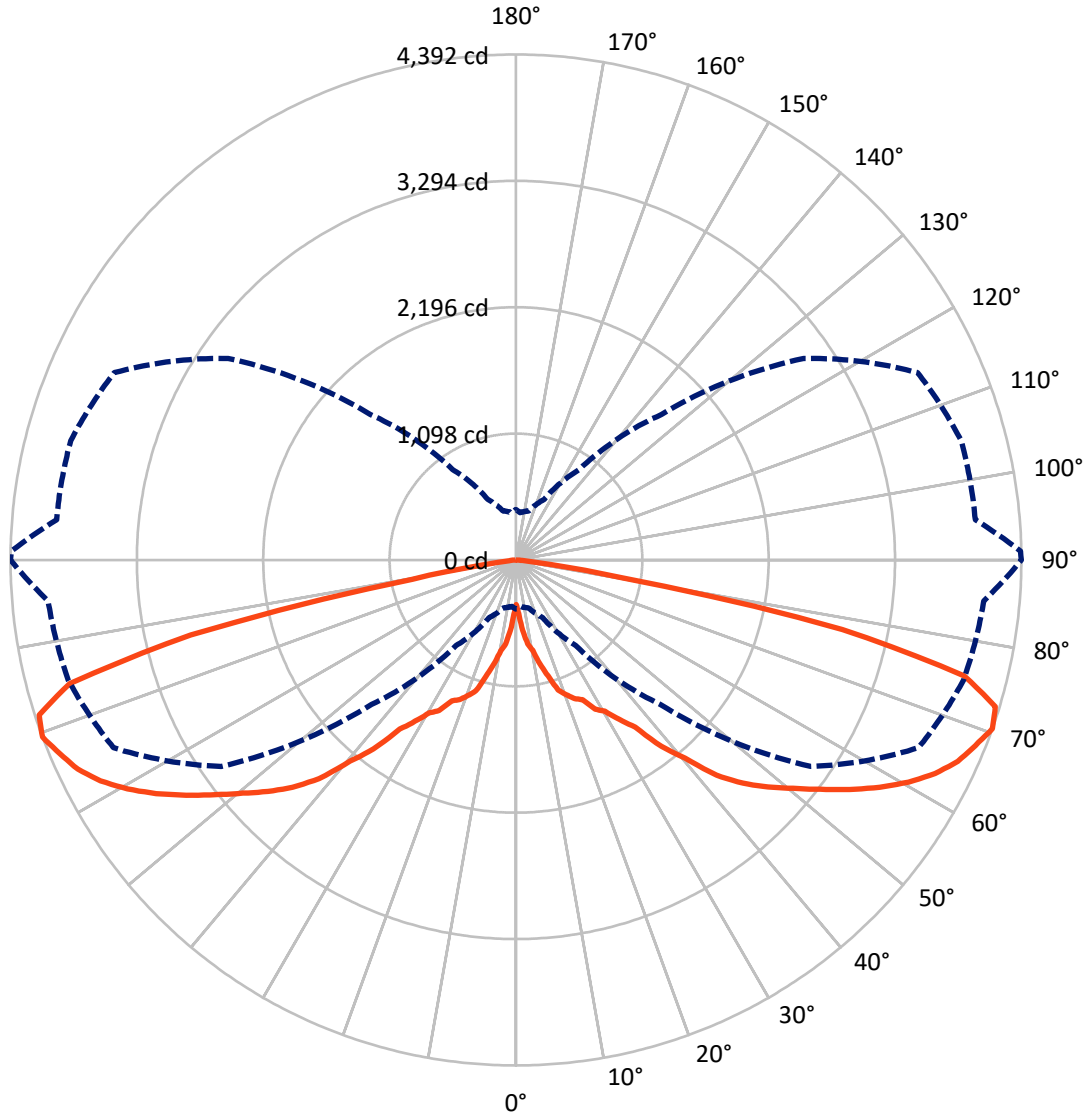
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 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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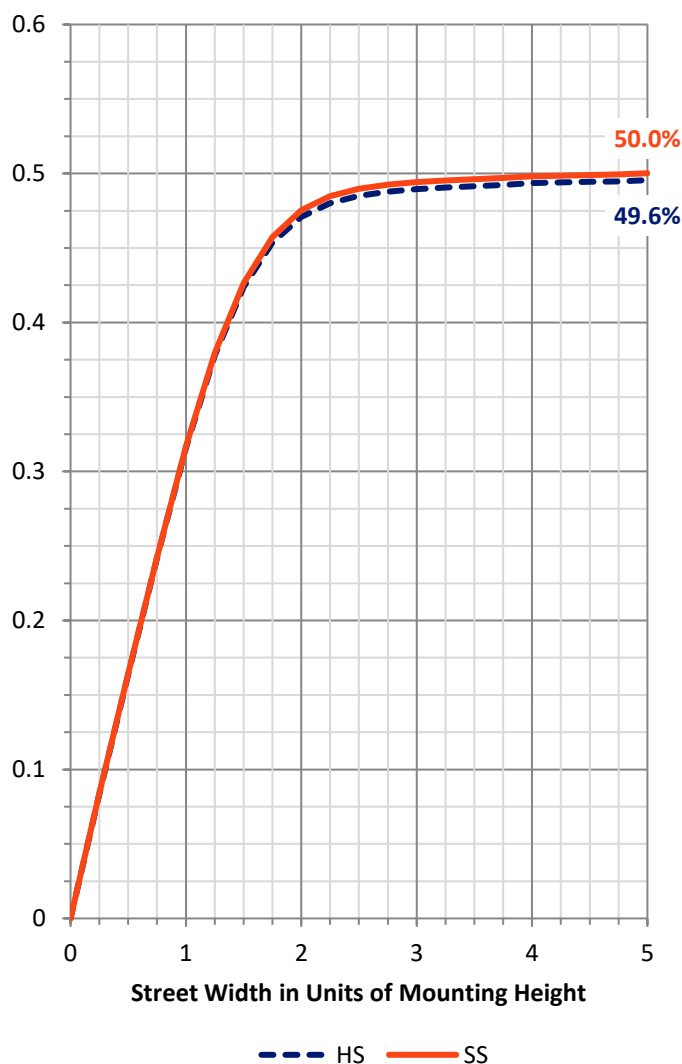
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5483.1	0.0	5483.1
	% Fixture	49.8	0.0	49.8
Street Side	Lumens	5523.9	0.0	5523.9
	% Fixture	50.2	0.0	50.2
Total	Lumens	11007.0	0.0	11007.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.3	0.5
10°-20°	267.1	2.4
20°-30°	577.5	5.2
30°-40°	1101.8	10.0
40°-50°	2001.6	18.2
50°-60°	2811.8	25.5
60°-70°	2684.7	24.4
70°-80°	1377.8	12.5
80°-90°	126.3	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°	11007.0	100.0
0°-180°	11007.0	100.0

Coefficient of Utilization



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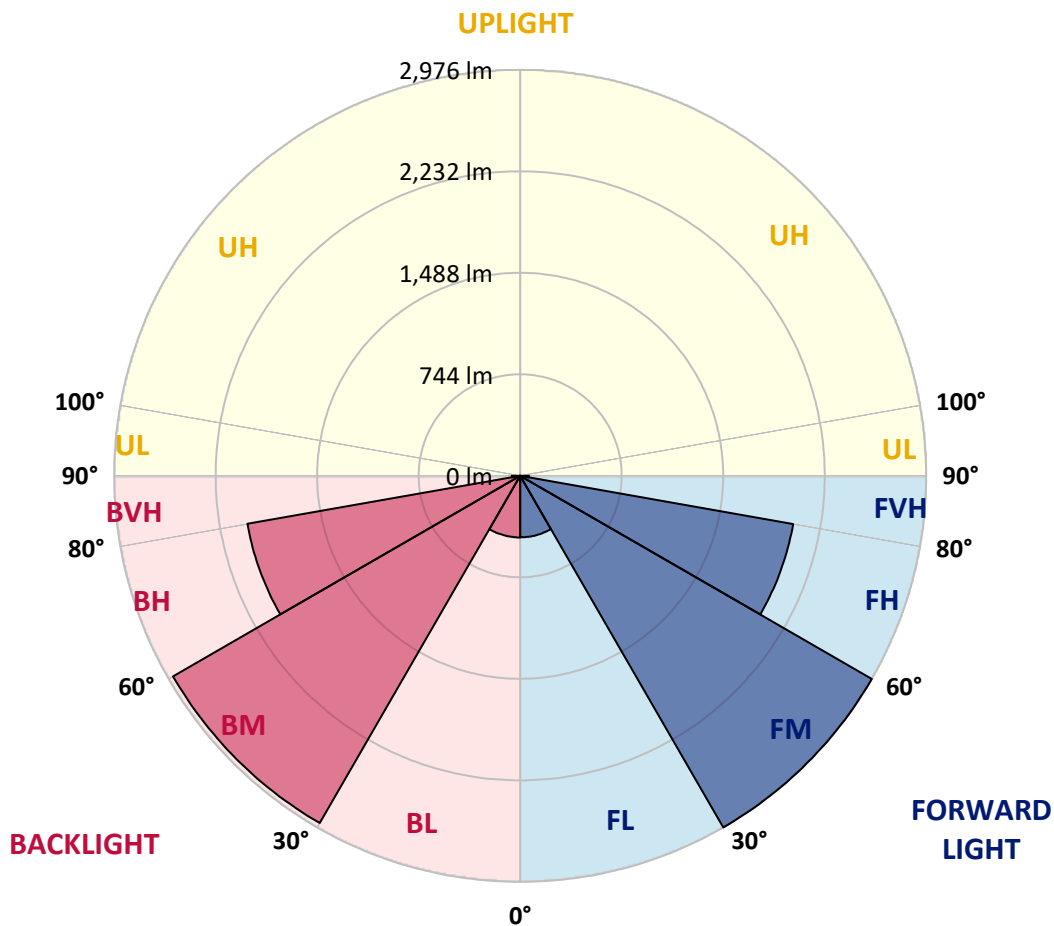
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	451.0	4.1			
FM (30°-60°)	2976.4	27.0			
FH (60°-80°)	2032.4	18.5			G2/5000
FVH (80°-90°)	64.1	0.6			G1/100
BL (0°-30°)	451.9	4.1	B1/500		
BM (30°-60°)	2938.9	26.7	B3/5000		
BH (60°-80°)	2030.2	18.4	B3/2500		G3/2500
BVH (80°-90°)	62.2	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°	386.3	386.3	386.3	386.3	386.3	386.3	386.3	386.3	386.3	386.3	386.3
2.5°	468.0	450.6	428.7	441.6	447.0	456.4	455.0	450.6	431.4	463.5	467.1
5°	585.7	558.1	547.8	546.0	548.7	539.8	568.8	560.3	575.9	604.9	611.6
7.5°	666.9	646.4	624.5	631.2	603.6	599.6	637.0	670.5	679.0	732.0	735.6
10°	705.3	685.2	691.0	687.0	683.9	709.7	727.1	751.7	786.9	791.8	799.4
12.5°	737.8	745.9	771.3	770.4	812.3	858.3	851.6	877.0	882.8	944.4	925.7
15°	820.4	836.9	835.1	850.7	869.0	944.4	944.8	988.1	1027.8	1051.9	1045.7
17.5°	941.3	947.1	923.0	923.9	977.0	1007.7	1042.1	1034.5	1138.0	1185.3	1188.4
20°	1013.5	1028.3	1000.6	964.0	1058.1	1100.5	1119.7	1075.5	1186.2	1250.0	1250.0
22.5°	1139.8	1101.9	1059.9	1035.4	1118.4	1163.4	1161.2	1148.7	1207.6	1320.4	1309.7
25°	1209.4	1188.0	1167.0	1173.2	1215.2	1238.4	1269.1	1240.2	1295.5	1379.3	1344.1
27.5°	1341.4	1301.7	1198.7	1280.7	1280.7	1263.3	1328.5	1342.3	1306.2	1442.7	1469.0
30°	1490.9	1477.0	1331.2	1418.1	1391.4	1342.3	1467.2	1458.3	1397.6	1536.8	1524.8
32.5°	1632.3	1677.8	1539.5	1491.8	1531.9	1550.6	1485.1	1511.8	1523.4	1657.7	1651.9
35°	1849.1	1887.4	1704.1	1692.0	1625.1	1607.7	1657.7	1666.6	1667.5	1808.9	1783.1
37.5°	2224.2	2168.9	1987.8	1902.6	1910.2	1889.2	1899.0	1828.6	1838.4	2043.6	2056.5
40°	2498.6	2436.1	2234.5	2173.4	2023.5	2113.2	2033.8	2026.6	2007.0	2272.9	2265.7
42.5°	2801.5	2715.8	2492.8	2411.2	2251.9	2215.3	2178.7	2261.3	2255.9	2502.2	2556.6
45°	3030.3	2857.3	2740.8	2690.0	2594.5	2504.8	2470.0	2507.1	2490.1	2673.0	2768.0
47.5°	3174.9	3024.5	2890.7	2783.7	2692.2	2912.1	2735.9	2686.4	2652.1	2856.8	2948.3
50°	3290.0	3116.4	2958.5	2922.8	2995.1	3189.6	2911.7	2802.4	2844.3	2995.1	3119.6
52.5°	3321.2	3137.4	2995.5	2972.8	3168.2	3203.4	3158.4	2974.6	2963.4	3161.0	3311.4
55°	3225.7	3049.5	2982.2	3106.6	3322.5	3293.1	3361.8	3244.5	3165.5	3330.6	3519.7
57.5°	2979.9	2805.1	2789.0	2968.3	3240.5	3491.2	3525.1	3432.3	3328.8	3503.7	3726.7
60°	2576.2	2416.5	2457.1	2655.2	3065.6	3422.5	3602.7	3517.9	3485.8	3659.8	3918.5
62.5°	1947.7	1823.2	1931.6	2207.7	2746.2	3333.7	3709.8	3696.4	3650.0	3825.7	4088.0
65°	1241.9	1176.4	1287.0	1567.6	2250.6	3172.2	3761.1	3778.9	3821.7	3953.8	4219.2
67.5°	721.8	687.0	754.4	984.1	1602.8	2604.8	3665.6	3921.6	3944.0	4019.8	4305.3
70°	426.9	404.2	431.8	552.7	907.4	1774.6	3126.7	3859.2	4027.8	4080.5	4392.3
72.5°	325.7	304.2	292.2	327.0	473.8	916.7	2114.1	3271.2	3960.5	4040.3	4355.7
75°	281.5	261.0	246.7	249.8	281.9	435.4	1146.0	2339.8	3374.7	3679.0	4023.4
77.5°	241.8	223.5	213.2	212.3	216.4	239.1	479.1	1268.7	2113.6	2644.5	2900.5
80°	193.6	179.3	177.1	177.1	171.3	169.5	238.2	482.7	804.3	953.8	914.5
82.5°	141.4	127.1	141.4	139.6	130.7	123.6	151.7	208.8	248.0	195.8	154.8
85°	95.5	82.5	93.2	95.0	86.5	64.2	91.0	104.4	107.1	66.9	55.3
87.5°	33.5	32.6	52.6	45.9	37.5	21.9	33.5	36.1	37.9	23.6	16.1
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°	386.3	386.3	386.3	386.3	386.3	386.3	386.3	386.3	386.3	386.3	386.3
2.5°	468.4	463.0	436.3	440.3	450.6	455.5	460.4	440.3	430.5	461.7	458.6
5°	613.4	593.8	571.9	568.8	570.1	550.9	562.1	557.2	559.4	579.5	583.5
7.5°	734.7	711.1	682.1	659.3	620.1	588.8	615.2	628.6	632.6	668.3	681.6
10°	800.3	780.2	771.7	728.9	716.0	712.0	705.7	684.3	708.0	699.5	706.2
12.5°	928.8	924.8	880.6	852.5	855.2	862.8	823.5	802.1	771.3	819.5	802.1
15°	1038.1	1055.5	1011.3	960.0	934.6	947.5	917.6	886.4	858.7	873.5	854.7
17.5°	1177.7	1177.3	1091.2	1036.3	1034.1	1033.2	989.0	920.3	953.3	943.1	943.9
20°	1251.8	1239.7	1132.6	1069.3	1123.3	1104.1	1064.4	976.1	1014.4	1026.9	1034.9
22.5°	1313.8	1307.1	1177.3	1130.9	1165.7	1166.1	1126.4	1080.0	1075.1	1113.9	1092.9
25°	1357.0	1383.8	1261.6	1250.4	1265.6	1250.4	1211.6	1181.3	1161.6	1219.6	1161.6
27.5°	1459.6	1421.7	1274.5	1337.8	1347.2	1270.9	1319.6	1283.9	1229.4	1301.3	1324.9
30°	1532.8	1555.1	1365.5	1461.0	1449.8	1379.3	1399.4	1398.1	1332.9	1473.0	1456.5
32.5°	1658.6	1631.8	1514.1	1506.5	1533.2	1530.1	1496.2	1512.7	1528.8	1630.5	1655.0
35°	1787.5	1816.1	1609.1	1660.4	1652.8	1604.6	1693.4	1683.1	1730.9	1939.6	1870.5
37.5°	2078.4	1942.3	1822.3	1815.6	1866.5	1874.1	1845.5	1890.6	1993.6	2154.2	2228.3
40°	2268.9	2206.8	2003.0	2011.0	1940.5	2061.9	1981.6	2126.5	2205.1	2475.8	2449.5
42.5°	2557.0	2405.8	2210.0	2236.7	2222.5	2164.0	2269.7	2344.2	2456.7	2663.2	2796.6
45°	2771.6	2564.2	2471.4	2454.9	2453.1	2554.8	2541.4	2660.5	2700.7	2855.9	2966.6
47.5°	2934.4	2758.2	2620.8	2639.6	2585.1	2875.5	2720.8	2757.8	2839.0	2985.3	3114.2
50°	3127.6	2931.3	2775.2	2821.6	2954.1	3065.6	2925.5	2862.2	2901.9	3074.5	3218.2
52.5°	3306.5	3099.9	2928.2	2967.0	3183.4	3132.5	3117.3	2957.2	2952.3	3091.0	3254.3
55°	3515.7	3282.8	3131.2	3254.3	3331.0	3268.1	3244.0	3049.1	2928.6	3005.8	3159.7
57.5°	3720.9	3464.0	3313.2	3338.6	3435.8	3373.4	3192.7	2892.5	2742.2	2757.3	2913.0
60°	3913.2	3630.3	3505.9	3481.3	3559.0	3314.1	2997.8	2605.7	2406.3	2369.7	2504.4
62.5°	4077.8	3769.5	3651.8	3584.8	3658.9	3316.3	2694.0	2145.3	1926.3	1802.2	1907.1
65°	4208.5	3885.1	3801.2	3766.4	3793.2	3114.7	2220.7	1575.2	1306.6	1169.2	1230.3
67.5°	4295.5	3949.8	3911.4	3956.9	3600.0	2594.1	1645.2	1008.2	759.7	684.8	723.1
70°	4385.6	4006.9	4005.5	3850.7	3052.6	1788.4	960.9	581.3	442.1	413.1	437.2
72.5°	4355.3	3939.0	3959.1	3367.6	2115.4	956.0	507.2	328.8	299.3	309.6	331.0
75°	4033.2	3581.3	3484.5	2421.0	1200.0	444.3	292.2	248.9	247.1	262.8	283.7
77.5°	2925.5	2494.1	2238.1	1372.2	514.4	240.4	215.0	207.9	207.9	220.4	239.1
80°	964.5	834.6	869.9	530.9	243.1	165.9	167.7	170.9	170.0	173.1	188.7
82.5°	158.4	164.2	253.8	216.8	146.8	113.3	126.7	132.9	134.7	120.4	137.0
85°	56.2	63.3	108.0	100.4	84.8	57.1	83.4	93.2	91.9	80.3	88.8
87.5°	17.4	22.3	39.3	30.3	25.4	15.6	31.2	36.6	45.9	18.7	17.0
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)