

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: P367526

Luminaire Tested: **MSA-SA2D-727-U-RW**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367526  
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-727-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: 11584 lumens  
Efficiency: N/A  
Efficacy: 89.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3

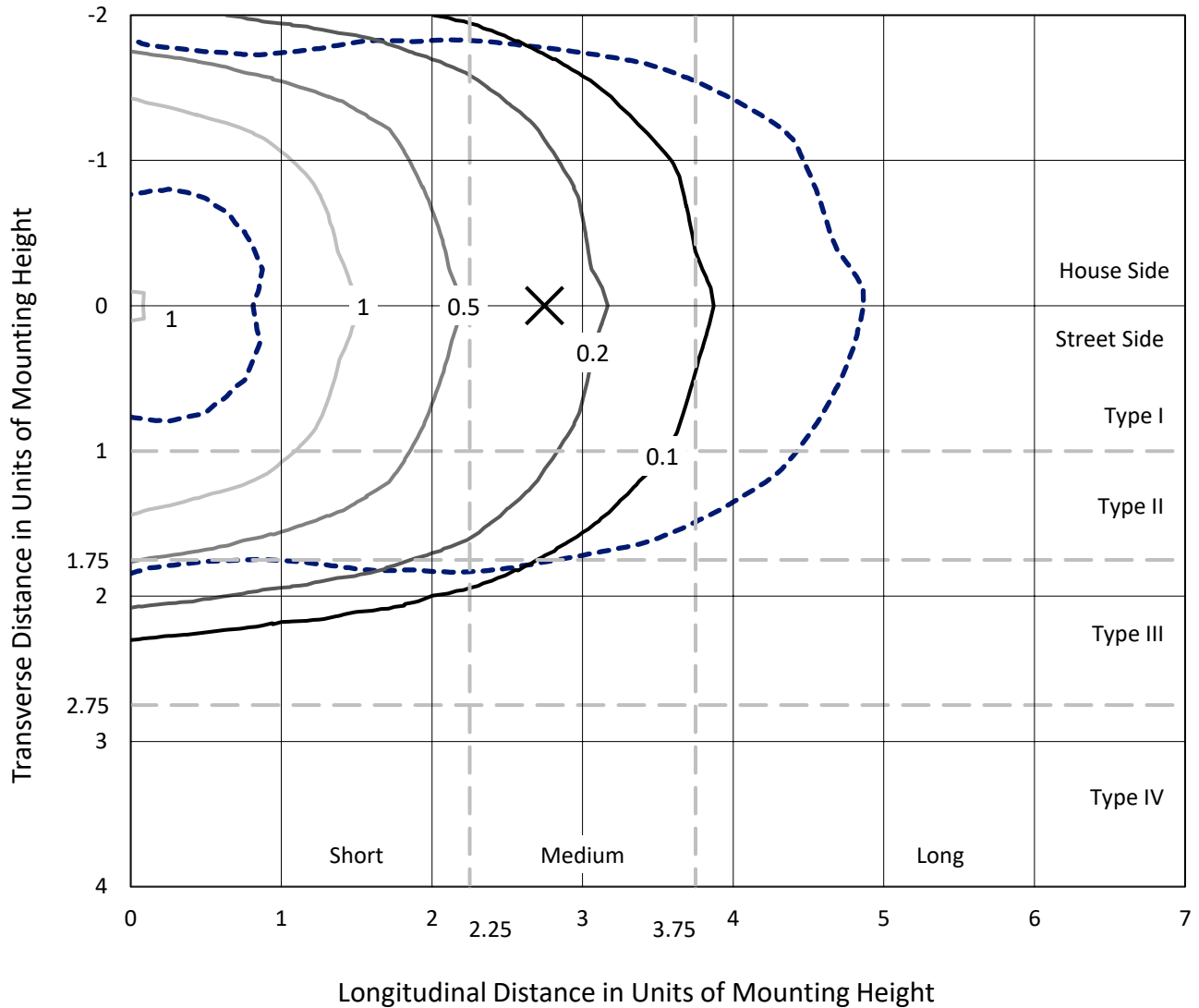
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

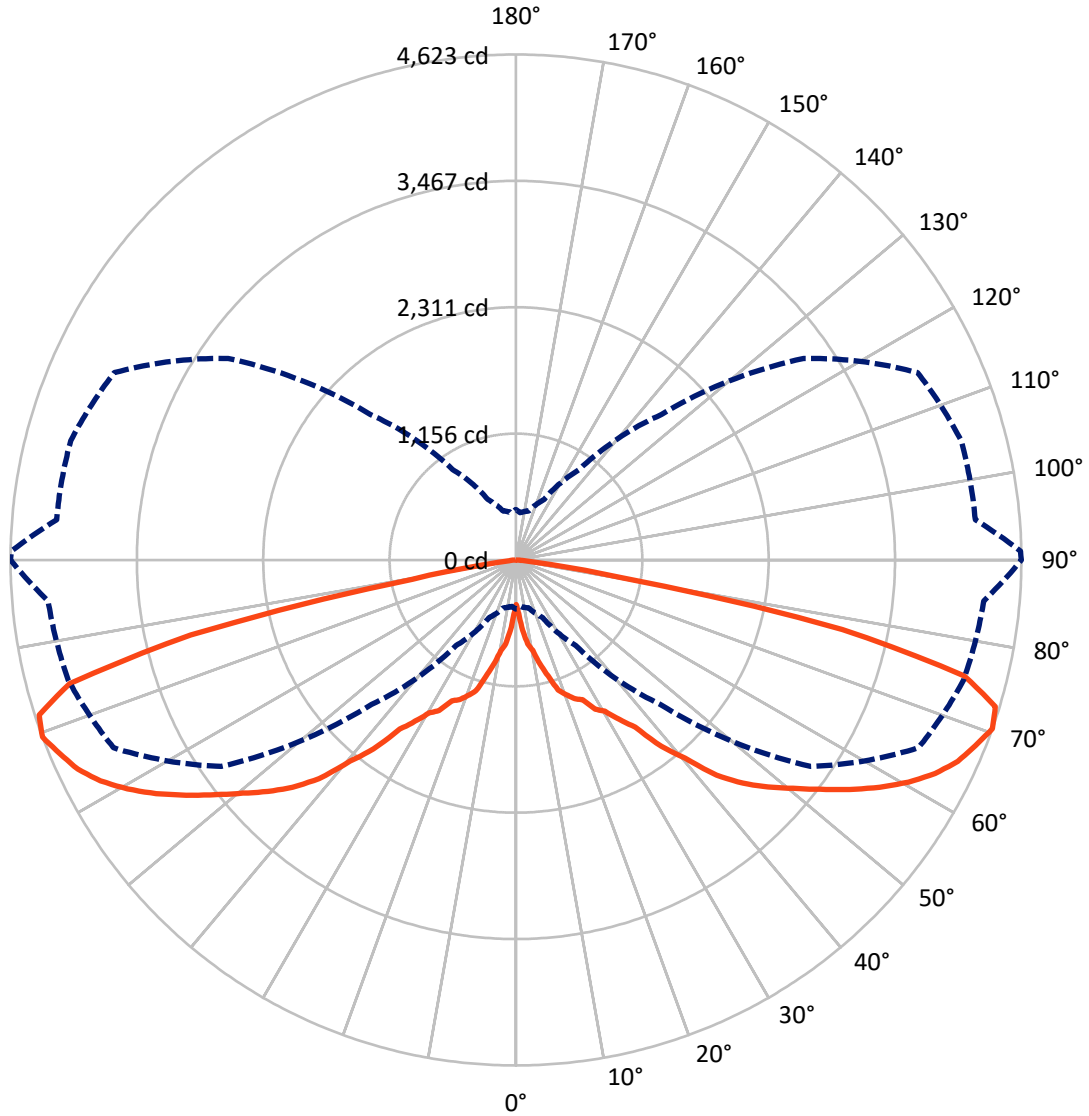
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.9 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	5770.5	0.0	5770.5
	% Fixture	49.8	0.0	49.8
<b>Street Side</b>	Lumens	5813.5	0.0	5813.5
	% Fixture	50.2	0.0	50.2
<b>Total</b>	Lumens	11584.0	0.0	11584.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.3	0.5
10°-20°	281.1	2.4
20°-30°	607.8	5.2
30°-40°	1159.6	10.0
40°-50°	2106.6	18.2
50°-60°	2959.2	25.5
60°-70°	2825.5	24.4
70°-80°	1450.0	12.5
80°-90°	132.9	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°	11584.0	100.0
0°-180°	11584.0	100.0

**Coefficient of Utilization**



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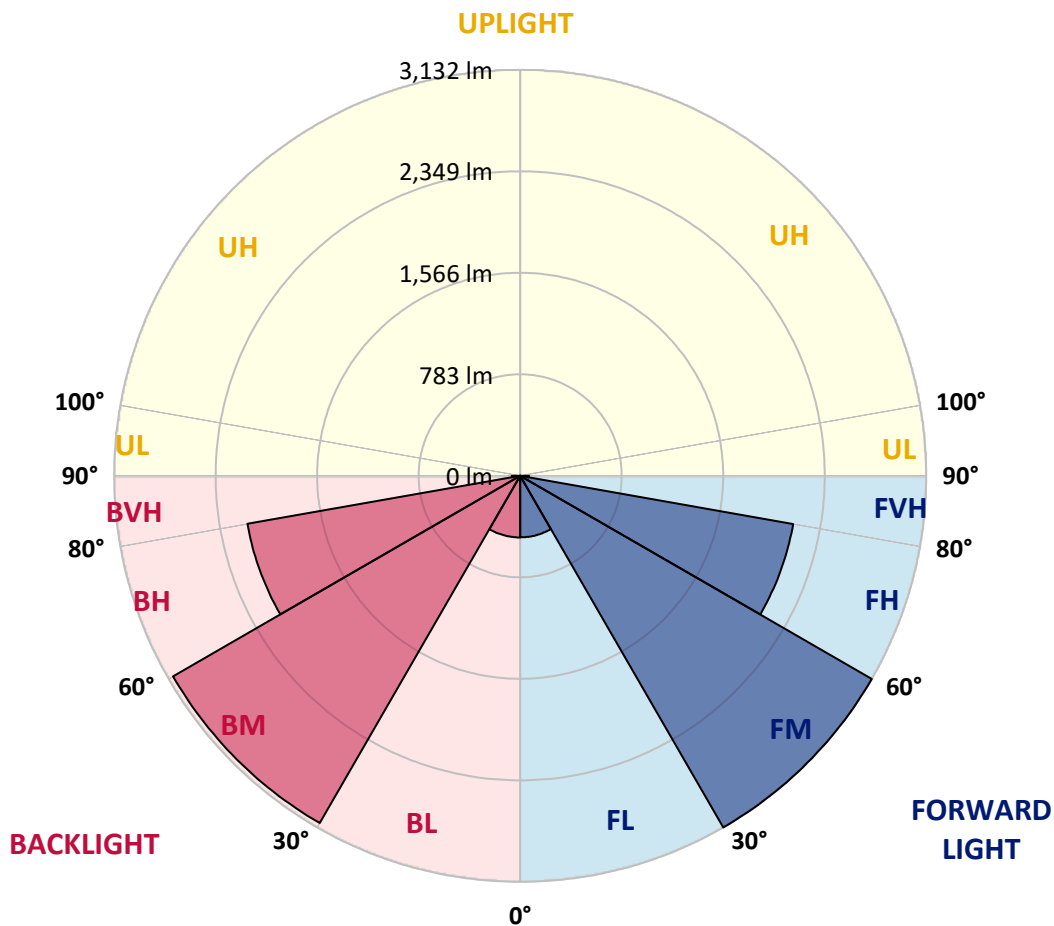
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	474.6	4.1			
FM (30°-60°)	3132.4	27.0			
FH (60°-80°)	2138.9	18.5			G2/5000
FVH (80°-90°)	67.5	0.6			G1/100
BL (0°-30°)	475.6	4.1	B1/500		
BM (30°-60°)	3092.9	26.7	B3/5000		
BH (60°-80°)	2136.6	18.4	B3/2500		G3/2500
BVH (80°-90°)	65.5	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°	406.6	406.6	406.6	406.6	406.6	406.6	406.6	406.6	406.6	406.6	406.6
2.5°	492.5	474.2	451.2	464.8	470.4	480.3	478.9	474.2	454.0	487.8	491.5
5°	616.4	587.3	576.5	574.6	577.5	568.1	598.6	589.7	606.1	636.6	643.7
7.5°	701.9	680.3	657.3	664.3	635.2	631.0	670.4	705.6	714.6	770.4	774.2
10°	742.3	721.1	727.2	723.0	719.7	746.9	765.3	791.1	828.2	833.3	841.3
12.5°	776.5	785.0	811.7	810.8	854.9	903.3	896.2	923.0	929.1	993.9	974.2
15°	863.4	880.7	878.9	895.3	914.6	993.9	994.4	1039.9	1081.7	1107.0	1100.5
17.5°	990.6	996.7	971.4	972.3	1028.2	1060.6	1096.7	1088.7	1197.7	1247.4	1250.7
20°	1066.7	1082.2	1053.1	1014.6	1113.6	1158.2	1178.4	1131.9	1248.4	1315.5	1315.5
22.5°	1199.5	1159.6	1115.5	1089.7	1177.0	1224.4	1222.1	1208.9	1270.9	1389.7	1378.4
25°	1272.8	1250.2	1228.2	1234.7	1278.9	1303.3	1335.7	1305.2	1363.4	1451.6	1414.6
27.5°	1411.7	1370.0	1261.5	1347.9	1347.9	1329.6	1398.1	1412.7	1374.6	1518.3	1546.0
30°	1569.0	1554.5	1400.9	1492.5	1464.3	1412.7	1544.1	1534.7	1470.9	1617.4	1604.7
32.5°	1717.8	1765.7	1620.2	1570.0	1612.2	1631.9	1562.9	1591.1	1603.3	1744.6	1738.5
35°	1946.0	1986.4	1793.4	1780.7	1710.3	1692.0	1744.6	1754.0	1754.9	1903.8	1876.5
37.5°	2340.8	2282.6	2092.0	2002.3	2010.3	1988.3	1998.6	1924.4	1934.7	2150.7	2164.3
40°	2629.6	2563.8	2351.6	2287.3	2129.6	2223.9	2140.4	2132.9	2112.2	2392.0	2384.5
42.5°	2948.4	2858.2	2623.5	2537.6	2369.9	2331.5	2293.0	2379.8	2374.2	2633.3	2690.6
45°	3189.2	3007.0	2884.5	2831.0	2730.5	2636.1	2599.5	2638.5	2620.7	2813.1	2913.1
47.5°	3341.3	3183.1	3042.2	2929.6	2833.3	3064.8	2879.3	2827.2	2791.1	3006.6	3102.8
50°	3462.4	3279.8	3113.6	3076.1	3152.1	3356.8	3064.3	2949.3	2993.4	3152.1	3283.1
52.5°	3495.3	3301.9	3152.6	3128.6	3334.3	3371.4	3323.9	3130.5	3118.8	3326.8	3485.0
55°	3394.8	3209.4	3138.5	3269.5	3496.7	3465.7	3538.0	3414.5	3331.5	3505.2	3704.2
57.5°	3136.1	2952.1	2935.2	3123.9	3410.3	3674.2	3709.9	3612.2	3503.3	3687.3	3922.1
60°	2711.3	2543.2	2585.9	2794.4	3226.3	3601.9	3791.5	3702.3	3668.5	3851.6	4123.9
62.5°	2049.8	1918.8	2032.9	2323.5	2890.1	3508.4	3904.2	3890.1	3841.3	4026.3	4302.3
65°	1307.0	1238.0	1354.5	1649.8	2368.5	3338.5	3958.2	3977.0	4022.1	4161.0	4440.4
67.5°	759.6	723.0	793.9	1035.7	1686.9	2741.3	3857.7	4127.2	4150.7	4230.5	4531.0
70°	449.3	425.4	454.5	581.7	954.9	1867.6	3290.6	4061.5	4239.0	4294.4	4622.5
72.5°	342.7	320.2	307.5	344.1	498.6	964.8	2224.9	3442.7	4168.1	4252.1	4584.0
75°	296.2	274.6	259.6	262.9	296.7	458.2	1206.1	2462.4	3551.6	3871.8	4234.3
77.5°	254.5	235.2	224.4	223.5	227.7	251.6	504.2	1335.2	2224.4	2783.1	3052.6
80°	203.8	188.7	186.4	186.4	180.3	178.4	250.7	508.0	846.5	1003.8	962.4
82.5°	148.8	133.8	148.8	146.9	137.6	130.0	159.6	219.7	261.0	206.1	162.9
85°	100.5	86.9	98.1	100.0	91.1	67.6	95.8	109.9	112.7	70.4	58.2
87.5°	35.2	34.3	55.4	48.4	39.4	23.0	35.2	38.0	39.9	24.9	16.9
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°	406.6	406.6	406.6	406.6	406.6	406.6	406.6	406.6	406.6	406.6	406.6
2.5°	493.0	487.3	459.2	463.4	474.2	479.3	484.5	463.4	453.1	485.9	482.6
5°	645.5	624.9	601.9	598.6	600.0	579.8	591.5	586.4	588.7	609.9	614.1
7.5°	773.2	748.4	717.8	693.9	652.6	619.7	647.4	661.5	665.7	703.3	717.4
10°	842.3	821.1	812.2	767.1	753.5	749.3	742.7	720.2	745.1	736.1	743.2
12.5°	977.5	973.2	926.8	897.2	900.0	908.0	866.7	844.1	811.7	862.4	844.1
15°	1092.5	1110.8	1064.3	1010.3	983.6	997.2	965.7	932.9	903.8	919.2	899.5
17.5°	1239.4	1239.0	1148.4	1090.6	1088.3	1087.3	1040.8	968.5	1003.3	992.5	993.4
20°	1317.4	1304.7	1192.0	1125.4	1182.2	1162.0	1120.2	1027.2	1067.6	1080.7	1089.2
22.5°	1382.6	1375.6	1239.0	1190.1	1226.8	1227.2	1185.4	1136.6	1131.5	1172.3	1150.2
25°	1428.2	1456.3	1327.7	1316.0	1331.9	1316.0	1275.1	1243.2	1222.5	1283.6	1222.5
27.5°	1536.1	1496.2	1341.3	1408.0	1417.8	1337.6	1388.7	1351.2	1293.9	1369.5	1394.4
30°	1613.1	1636.6	1437.1	1537.6	1525.8	1451.6	1472.8	1471.4	1402.8	1550.2	1532.9
32.5°	1745.5	1717.4	1593.4	1585.4	1613.6	1610.3	1574.6	1592.0	1608.9	1716.0	1741.8
35°	1881.2	1911.3	1693.4	1747.4	1739.4	1688.7	1782.2	1771.4	1821.6	2041.3	1968.5
37.5°	2187.3	2044.1	1917.8	1910.8	1964.3	1972.3	1942.3	1989.7	2098.1	2267.1	2345.1
40°	2387.8	2322.5	2108.0	2116.4	2042.3	2169.9	2085.4	2238.0	2320.7	2605.6	2577.9
42.5°	2691.1	2531.9	2325.8	2354.0	2339.0	2277.5	2388.7	2467.1	2585.4	2802.8	2943.2
45°	2916.9	2698.6	2600.9	2583.6	2581.7	2688.7	2674.6	2800.0	2842.2	3005.6	3122.1
47.5°	3088.3	2902.8	2758.2	2777.9	2720.7	3026.3	2863.4	2902.3	2987.8	3141.8	3277.5
50°	3291.5	3085.0	2920.7	2969.5	3108.9	3226.3	3078.9	3012.2	3054.0	3235.7	3386.8
52.5°	3479.8	3262.4	3081.7	3122.5	3350.2	3296.7	3280.7	3112.2	3107.0	3253.0	3424.9
55°	3700.0	3454.9	3295.3	3424.9	3505.6	3439.4	3414.1	3208.9	3082.2	3163.4	3325.3
57.5°	3916.0	3645.5	3486.8	3513.6	3616.0	3550.2	3360.1	3044.1	2885.9	2901.9	3065.7
60°	4118.3	3820.7	3689.7	3663.8	3745.5	3487.8	3154.9	2742.2	2532.4	2493.9	2635.7
62.5°	4291.5	3967.1	3843.2	3772.8	3850.7	3490.1	2835.2	2257.7	2027.2	1896.7	2007.0
65°	4429.1	4088.7	4000.5	3963.8	3992.0	3277.9	2337.1	1657.7	1375.1	1230.5	1294.8
67.5°	4520.7	4156.8	4116.4	4164.3	3788.7	2730.0	1731.5	1061.0	799.5	720.7	761.0
70°	4615.5	4216.9	4215.5	4052.6	3212.7	1882.2	1011.3	611.7	465.3	434.7	460.1
72.5°	4583.6	4145.5	4166.7	3544.1	2226.3	1006.1	533.8	346.0	315.0	325.8	348.4
75°	4244.6	3769.0	3667.1	2547.9	1262.9	467.6	307.5	262.0	260.1	276.5	298.6
77.5°	3078.9	2624.9	2355.4	1444.1	541.3	253.1	226.3	218.8	218.8	231.9	251.6
80°	1015.0	878.4	915.5	558.7	255.9	174.6	176.5	179.8	178.9	182.2	198.6
82.5°	166.7	172.8	267.1	228.2	154.5	119.2	133.3	139.9	141.8	126.8	144.1
85°	59.2	66.7	113.6	105.6	89.2	60.1	87.8	98.1	96.7	84.5	93.4
87.5°	18.3	23.5	41.3	31.9	26.8	16.4	32.9	38.5	48.4	19.7	17.8
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)