

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: P368344

Luminaire Tested: **MSA-SA4B-730-U-SL3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368344  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4B-730-U-SL3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17362 lumens  
Efficiency: N/A  
Efficacy: 101.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G3

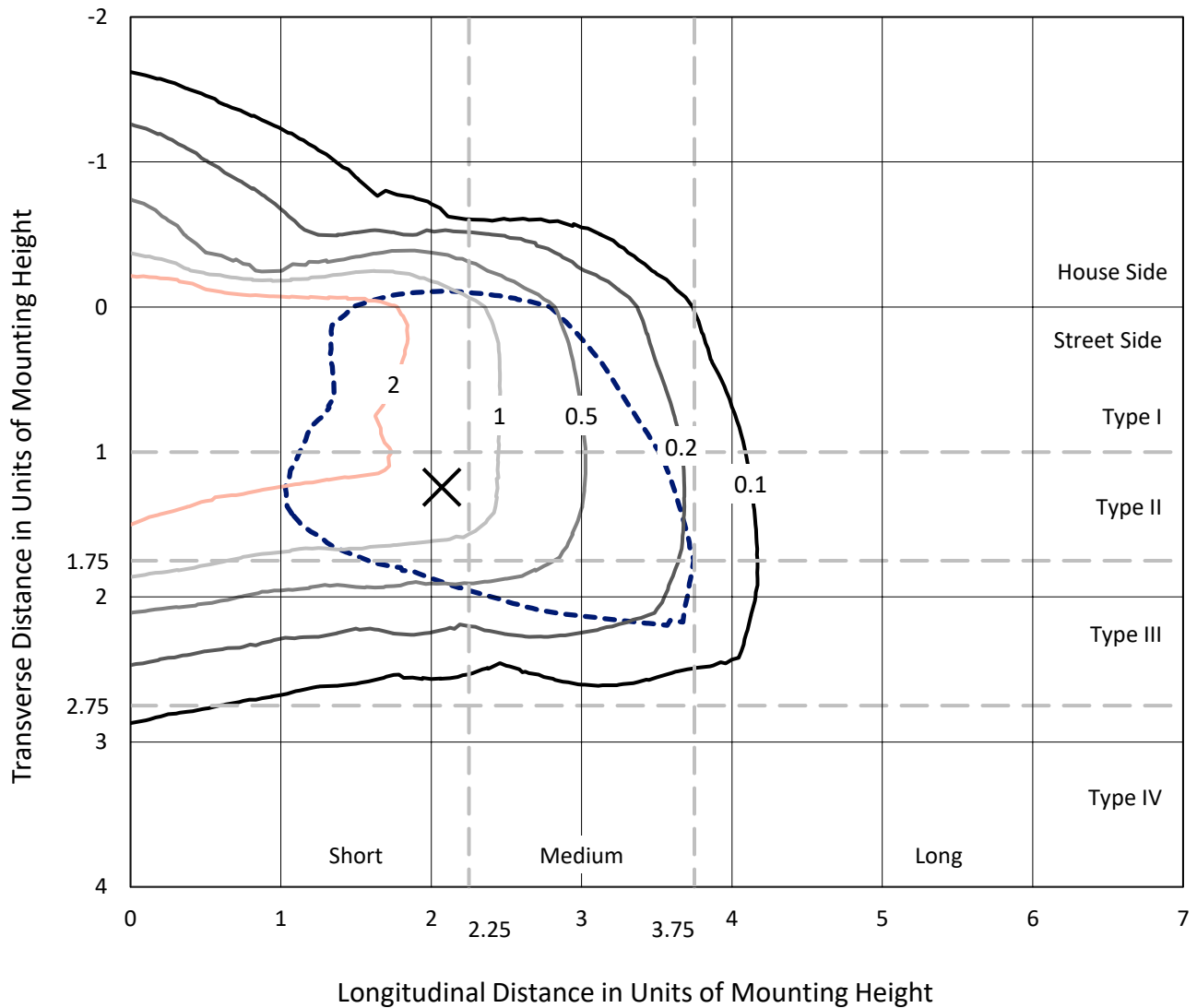
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

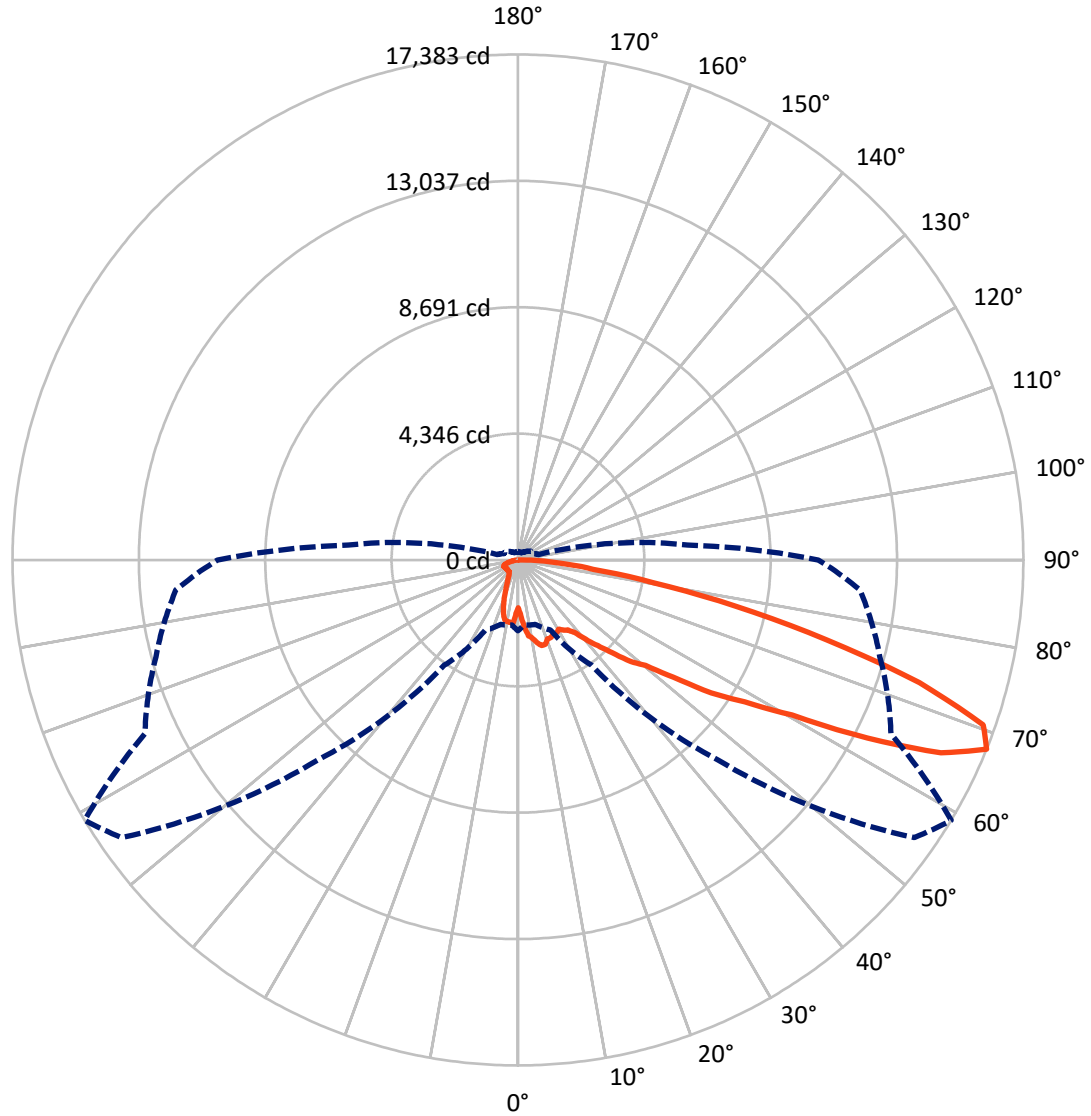
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2613.3	0.0	2613.3
	% Fixture	15.1	0.0	15.1
<b>Street Side</b>	Lumens	14748.7	0.0	14748.7
	% Fixture	84.9	0.0	84.9
<b>Total</b>	Lumens	17362.0	0.0	17362.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	214.6	1.2
10°-20°	635.0	3.7
20°-30°	906.8	5.2
30°-40°	1336.2	7.7
40°-50°	2257.5	13.0
50°-60°	3928.6	22.6
60°-70°	5006.2	28.8
70°-80°	2650.8	15.3
80°-90°	426.4	2.5
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°	17362.0	100.0
0°-180°	17362.0	100.0

**Coefficient of Utilization**

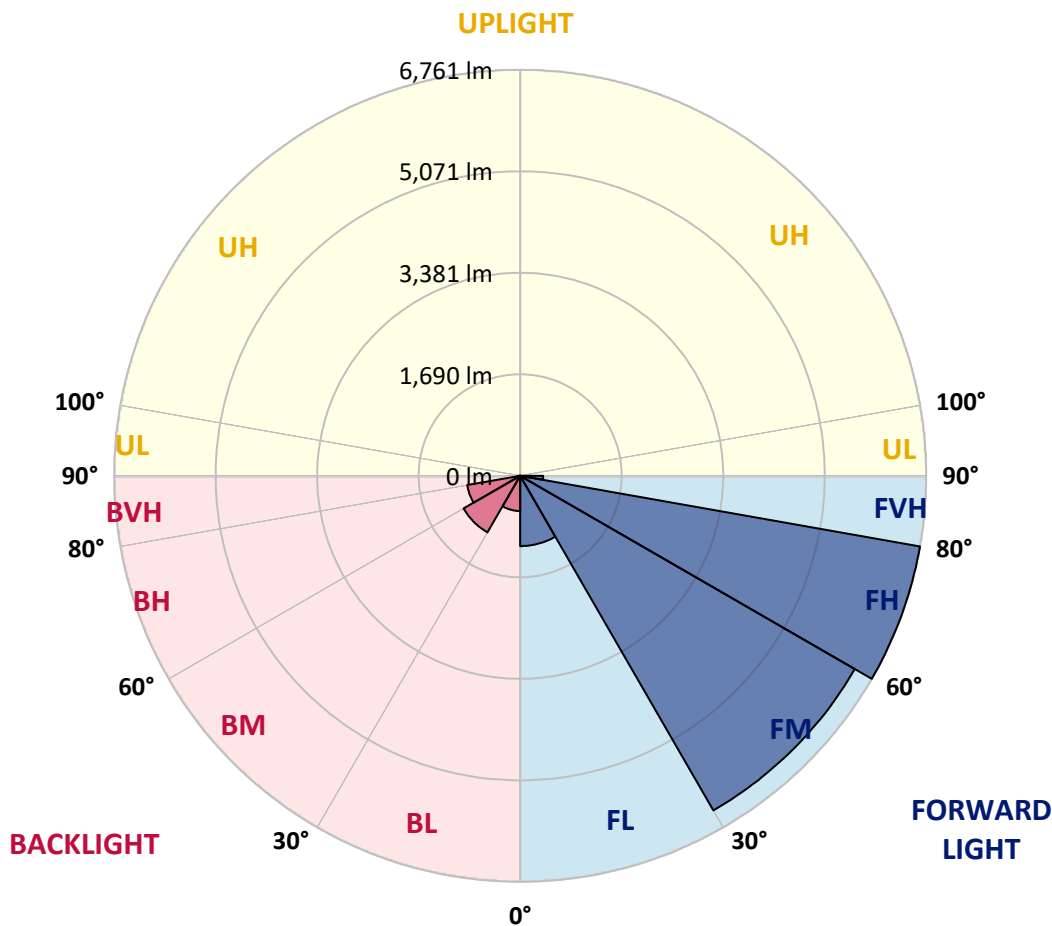


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1170.2	6.7			
FM (30°-60°)	6434.1	37.1			
FH (60°-80°)	6761.3	38.9			G3/7500
FVH (80°-90°)	383.0	2.2			G3/500
BL (0°-30°)	586.1	3.4	B2/1000		
BM (30°-60°)	1088.2	6.3	B2/2500		
BH (60°-80°)	895.7	5.2	B2/1000		G2/1000
BVH (80°-90°)	43.4	0.3			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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9
2.5°	2051.2	1955.6	1854.1	1882.8	1940.9	1967.4	1938.7	1910.7	1874.7	1832.0	1977.7
5°	2487.5	2345.5	2324.9	2324.2	2303.6	2221.2	2327.1	2319.8	2362.5	2406.6	2519.9
7.5°	2611.9	2558.9	2501.5	2528.7	2425.0	2420.6	2585.4	2632.5	2714.9	2687.7	2839.9
10°	2547.9	2488.3	2518.4	2507.4	2517.0	2625.8	2726.6	2729.6	2817.9	2904.7	2806.8
12.5°	2435.3	2439.7	2559.6	2555.2	2709.7	2912.1	2942.2	2918.7	3062.9	3004.0	3087.9
15°	2515.5	2569.2	2539.0	2564.8	2625.8	2883.4	2967.2	3052.6	3189.4	3242.4	3158.5
17.5°	2643.5	2672.2	2536.8	2522.8	2648.7	2770.8	2979.0	3051.8	3073.2	3450.6	3332.2
20°	2589.1	2647.2	2514.8	2344.8	2553.7	2715.6	2920.9	2898.8	3002.5	3466.8	3368.2
22.5°	2743.6	2647.2	2478.7	2358.0	2431.6	2580.2	2754.6	2899.5	3022.4	3371.9	3420.4
25°	2773.0	2727.4	2569.9	2450.0	2425.0	2478.0	2726.6	2821.6	3029.0	3501.4	3392.5
27.5°	2952.5	2884.1	2563.3	2567.0	2442.7	2349.2	2638.4	2837.7	3104.1	3421.2	3460.9
30°	3175.4	3123.2	2720.8	2735.5	2563.3	2391.1	2698.7	2759.0	3147.5	3546.3	3547.0
32.5°	3342.5	3434.4	3030.5	2830.4	2769.3	2640.6	2606.0	2877.5	3096.7	3772.9	3694.1
35°	3643.4	3714.7	3268.9	3108.5	2901.8	2756.8	2857.6	2955.5	3307.9	4070.8	3912.7
37.5°	4200.3	4117.9	3711.8	3459.4	3382.2	3173.2	3229.2	3160.7	3537.4	4405.6	4340.9
40°	4522.6	4451.2	4023.8	3884.0	3577.9	3604.4	3534.5	3584.5	3844.2	4761.7	4741.1
42.5°	4840.4	4744.8	4383.5	4286.4	3981.1	3851.6	3864.1	4026.0	4317.3	5337.0	5268.6
45°	5154.6	4909.6	4751.4	4777.1	4630.0	4364.4	4382.8	4535.1	4833.8	5994.8	5837.3
47.5°	5395.2	5192.8	5069.2	5037.6	4964.8	5320.1	5161.2	5223.0	5354.7	6580.4	6520.8
50°	5850.6	5614.4	5453.3	5407.7	5654.9	6149.3	5825.6	5692.4	5972.7	7337.5	7306.6
52.5°	6579.7	6285.4	6016.9	6013.9	6371.5	6692.3	6920.4	6690.8	6793.8	8113.0	8201.3
55°	7216.1	6875.5	6634.1	6767.3	7276.4	7472.9	8247.6	8068.1	7981.3	8895.8	9148.2
57.5°	7453.8	7055.7	6898.3	7094.7	7845.2	8854.6	9673.5	9201.1	9116.5	9781.6	10310.6
60°	6932.1	6511.3	6520.8	6890.9	8191.0	9869.2	11232.5	10831.5	10335.6	10884.5	11401.0
62.5°	5445.9	5065.6	5313.5	5876.3	7901.1	10855.1	13322.0	13491.2	11728.4	11799.0	12005.8
65°	3701.5	3438.1	3661.8	4212.8	6408.3	11392.9	15312.2	15990.5	12996.8	12397.9	12267.0
67.5°	2436.0	2249.9	2293.3	2659.7	4411.5	9712.5	16643.1	17382.5	14156.3	12889.4	11806.4
70°	1886.4	1736.3	1717.2	1909.2	2616.3	6747.5	15854.4	16978.6	14862.6	12428.8	10290.8
72.5°	1480.3	1366.3	1376.6	1561.2	2026.2	3743.4	12268.4	14438.1	13798.8	10719.0	7906.2
75°	1154.4	1060.9	1113.2	1324.3	1873.9	2326.4	8464.7	10958.1	10668.2	7937.1	4509.3
77.5°	838.0	777.7	852.0	1127.9	1761.4	1996.1	5269.4	7645.1	6834.3	4075.3	1547.3
80°	549.6	515.8	576.8	919.7	1597.3	1921.0	3256.4	4684.4	3377.0	1144.8	585.6
82.5°	323.7	309.0	359.8	622.4	1283.9	1800.4	2171.9	2603.0	1381.7	484.1	311.2
85°	170.0	158.9	213.4	357.6	885.1	1643.6	1709.9	1558.3	667.3	210.4	148.6
87.5°	56.7	55.2	90.5	138.3	334.8	872.6	912.3	740.2	275.2	61.1	32.4
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°	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9	1642.9
2.5°	1997.5	1968.1	1798.9	1822.4	1844.5	1833.5	1826.8	1750.3	1743.0	1851.9	1843.0
5°	2517.0	2394.8	2250.6	2244.0	2149.1	2052.0	2071.1	2040.2	2049.0	2093.9	2098.3
7.5°	2791.4	2639.1	2501.5	2277.8	2088.0	1934.3	1958.5	1951.2	1931.3	2032.8	2060.1
10°	2786.2	2650.9	2495.6	2224.9	2096.9	1971.8	1821.7	1679.7	1637.8	1587.7	1592.1
12.5°	2970.2	2850.2	2511.8	2235.9	2062.3	1846.7	1565.7	1410.4	1261.8	1258.8	1221.3
15°	3027.6	2939.3	2546.4	2172.6	1820.2	1511.2	1220.6	1052.1	944.7	923.4	891.7
17.5°	3172.5	3034.2	2441.2	1968.1	1539.2	1181.6	917.5	799.7	790.9	805.6	789.4
20°	3182.1	2957.7	2251.4	1665.7	1236.8	895.4	748.2	689.4	721.0	757.1	755.6
22.5°	3174.0	2861.3	2087.3	1408.2	929.2	719.6	655.5	642.3	671.7	725.4	732.1
25°	3091.6	2829.6	1882.0	1156.6	754.1	616.5	598.9	607.0	643.8	707.0	707.0
27.5°	3177.7	2700.9	1624.5	941.0	634.2	548.9	561.4	582.0	609.2	681.3	694.5
30°	3149.7	2743.6	1417.0	757.8	559.2	501.8	529.7	550.3	581.2	656.3	662.9
32.5°	3224.7	2629.5	1242.7	637.1	509.9	483.4	490.0	518.0	558.4	617.3	629.1
35°	3339.5	2671.5	1042.5	573.1	485.6	462.0	474.6	496.6	537.1	594.5	604.0
37.5°	3705.9	2669.3	904.2	537.8	481.2	457.6	463.5	479.0	526.1	578.3	600.4
40°	3941.3	2822.3	778.4	529.7	476.0	455.4	450.3	467.2	504.7	566.5	582.0
42.5°	4383.5	2915.7	724.0	526.8	475.3	442.9	437.8	457.6	494.4	551.8	575.3
45°	4850.7	3048.9	680.6	525.3	473.1	440.7	425.3	450.3	481.2	536.4	563.6
47.5°	5400.3	3330.7	656.3	520.2	468.7	443.6	420.8	433.3	467.9	523.1	550.3
50°	6119.9	3703.7	661.4	512.8	475.3	444.4	414.2	420.1	451.7	505.5	533.4
52.5°	6994.7	4281.3	694.5	515.8	479.7	440.7	411.3	408.3	435.6	482.6	510.6
55°	8049.0	5100.9	793.9	529.7	479.7	440.0	406.9	393.6	414.2	452.5	479.7
57.5°	9321.1	6050.0	988.1	536.4	476.0	435.6	397.3	373.8	386.3	417.9	443.6
60°	10413.6	6815.9	1188.2	540.8	483.4	425.3	378.2	348.7	356.8	381.1	403.9
62.5°	10970.6	7030.7	1248.5	537.1	503.2	418.6	355.4	322.3	323.0	343.6	364.2
65°	11075.1	6744.5	1006.5	533.4	529.0	417.9	339.2	299.4	294.3	309.0	326.7
67.5°	10330.5	5854.3	726.2	525.3	531.9	413.5	328.1	281.1	267.8	278.1	292.8
70°	8771.5	4714.6	609.9	509.1	496.6	391.4	309.0	261.9	244.3	251.6	262.7
72.5°	6539.2	3488.1	531.9	474.6	432.6	334.8	279.6	240.6	222.2	227.3	235.4
75°	3633.1	1860.7	445.1	412.7	353.2	270.8	238.4	213.4	197.2	199.4	208.2
77.5°	1206.6	686.4	326.7	327.4	267.1	208.9	196.4	182.5	170.0	170.7	178.0
80°	546.7	379.6	234.0	235.4	186.1	151.6	150.8	146.4	138.3	136.1	141.3
82.5°	317.1	230.3	160.4	153.0	119.9	98.6	109.6	107.4	105.2	97.1	98.6
85°	156.0	123.6	83.9	79.5	66.2	49.3	58.9	61.1	58.9	50.0	49.3
87.5°	38.3	40.5	20.6	19.1	11.0	5.2	8.8	8.8	11.0	7.4	3.7
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)