

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: P596790

Luminaire Tested: **MSA-SA4C-827-U-SL3**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596790  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4C-827-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: 17356 lumens  
Efficiency: N/A  
Efficacy: 77.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G3

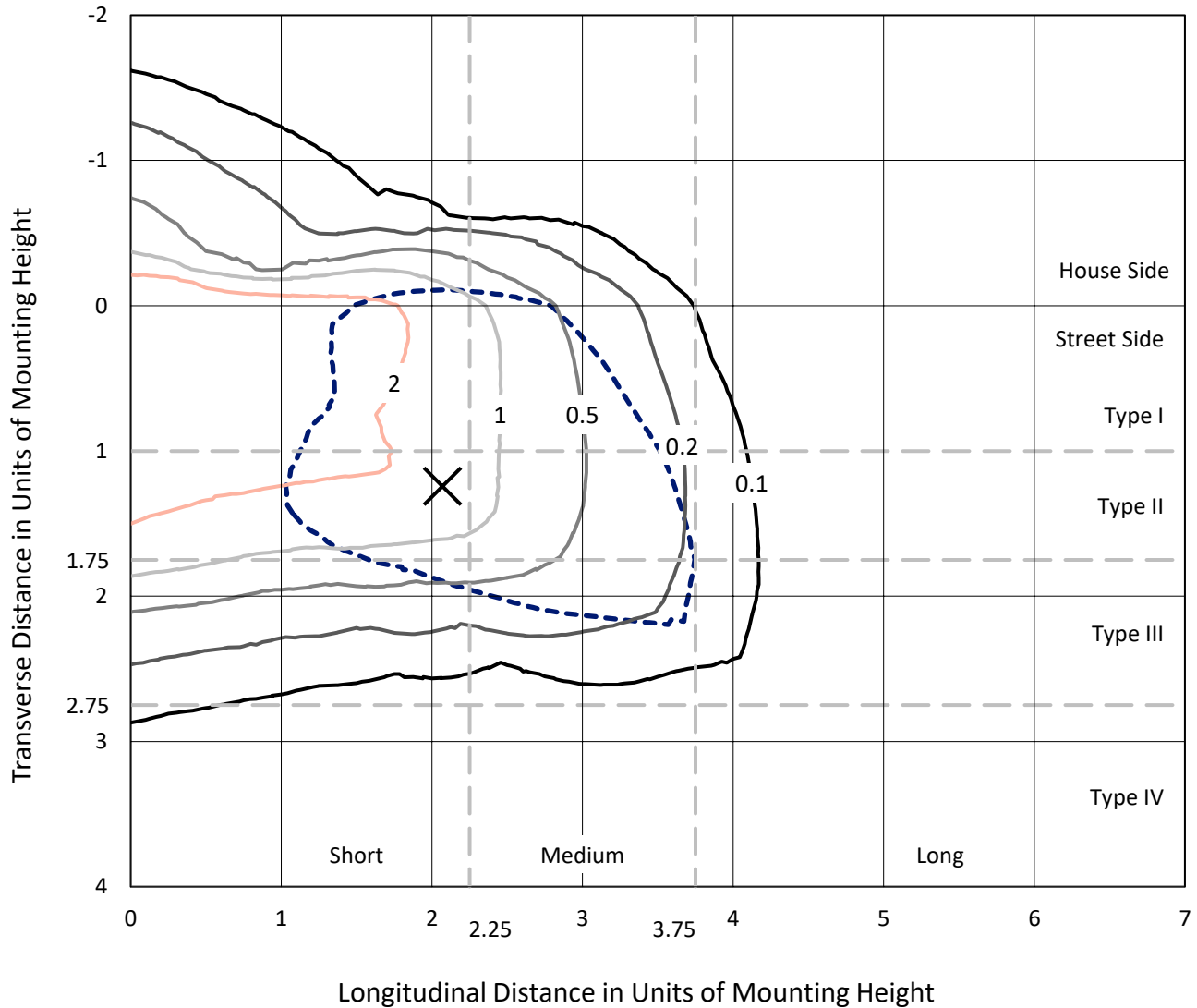
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

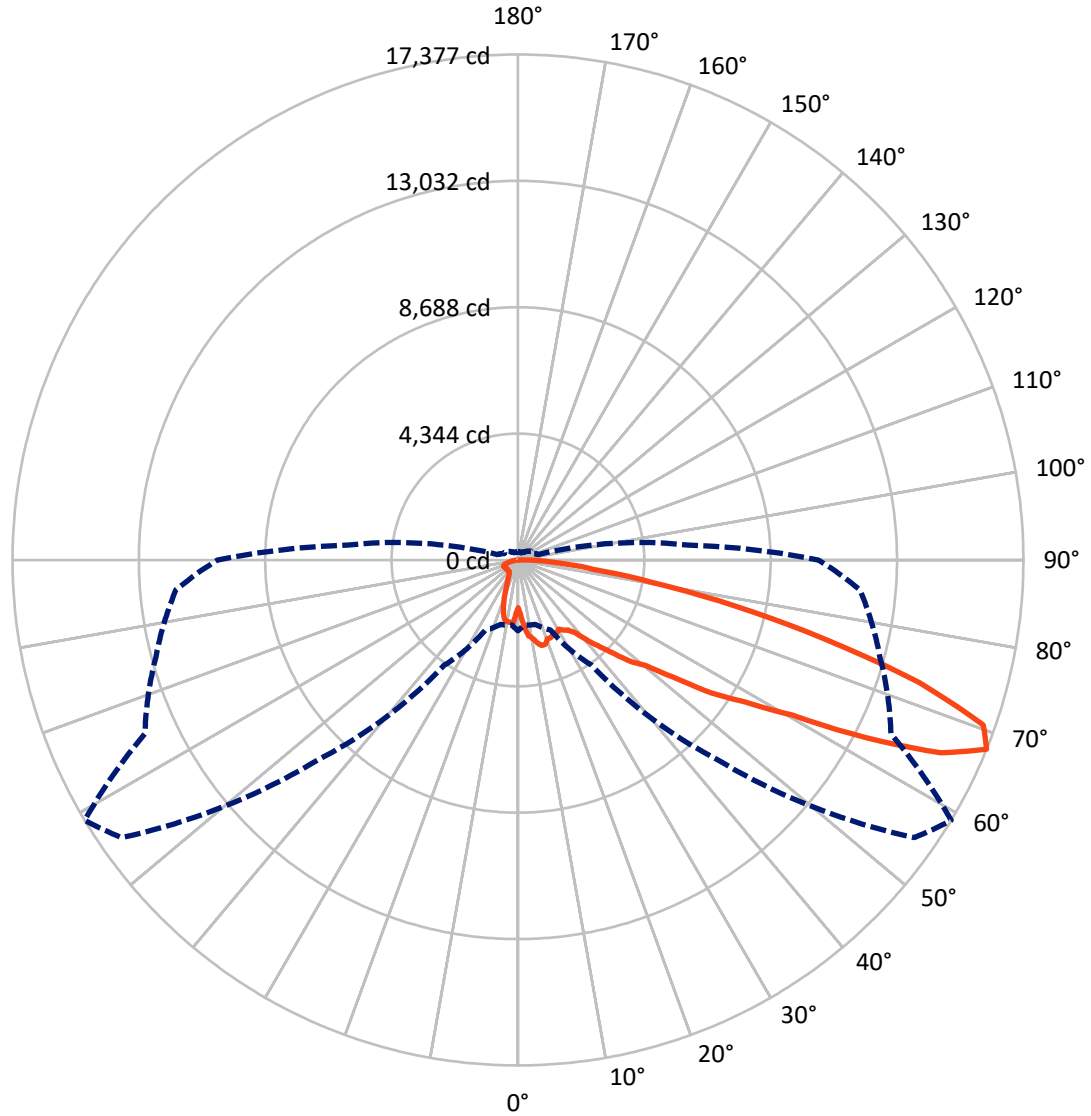
× Max cd  
 - - - 1/2 Max cd



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	2612.4	0.0	2612.4
	% Fixture	15.1	0.0	15.1
<b>Street Side</b>	Lumens	14743.6	0.0	14743.6
	% Fixture	84.9	0.0	84.9
<b>Total</b>	Lumens	17356.0	0.0	17356.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	214.5	1.2
10°-20°	634.7	3.7
20°-30°	906.5	5.2
30°-40°	1335.7	7.7
40°-50°	2256.8	13.0
50°-60°	3927.2	22.6
60°-70°	5004.4	28.8
70°-80°	2649.9	15.3
80°-90°	426.3	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°	17356.0	100.0
0°-180°	17356.0	100.0

**Coefficient of Utilization**



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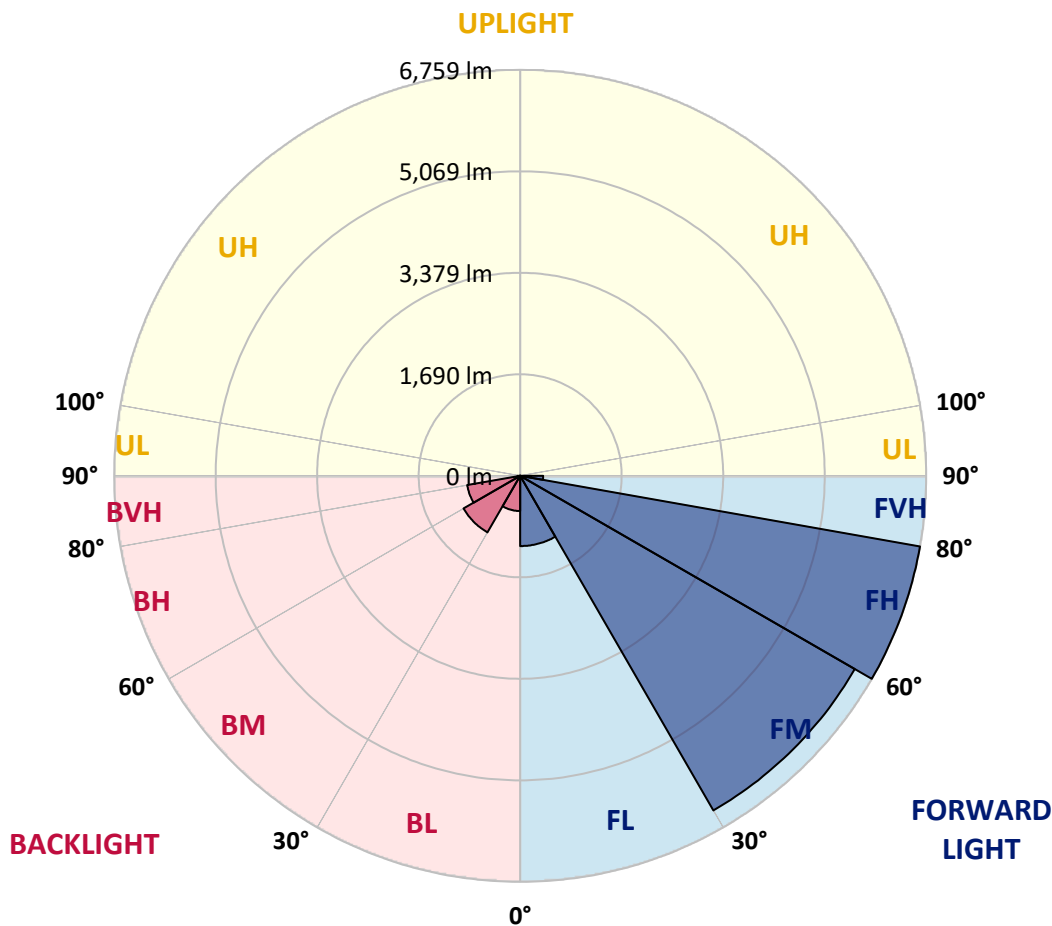
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1169.8	6.7			
FM (30°-60°)	6431.9	37.1			
FH (60°-80°)	6759.0	38.9			G3/7500
FVH (80°-90°)	382.9	2.2			G3/500
BL (0°-30°)	585.9	3.4	B2/1000		
BM (30°-60°)	1087.8	6.3	B2/2500		
BH (60°-80°)	895.4	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°	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3
2.5°	2050.5	1954.9	1853.4	1882.1	1940.2	1966.7	1938.0	1910.1	1874.0	1831.4	1977.0
5°	2486.7	2344.7	2324.1	2323.4	2302.8	2220.4	2326.3	2319.0	2361.6	2405.8	2519.0
7.5°	2611.0	2558.0	2500.6	2527.9	2424.2	2419.7	2584.5	2631.6	2713.9	2686.7	2839.0
10°	2547.0	2487.4	2517.6	2506.5	2516.1	2624.9	2725.7	2728.6	2816.9	2903.7	2805.9
12.5°	2434.5	2438.9	2558.7	2554.3	2708.8	2911.0	2941.2	2917.7	3061.8	3003.0	3086.8
15°	2514.6	2568.3	2538.2	2563.9	2624.9	2882.4	2966.2	3051.5	3188.3	3241.3	3157.4
17.5°	2642.6	2671.3	2535.9	2522.0	2647.7	2769.8	2978.0	3050.8	3072.1	3449.4	3331.0
20°	2588.2	2646.3	2513.9	2344.0	2552.9	2714.7	2919.9	2897.8	3001.5	3465.6	3367.0
22.5°	2742.6	2646.3	2477.8	2357.2	2430.8	2579.3	2753.7	2898.5	3021.4	3370.7	3419.3
25°	2772.0	2726.4	2569.0	2449.2	2424.2	2477.1	2725.7	2820.6	3028.0	3500.2	3391.3
27.5°	2951.5	2883.1	2562.4	2566.1	2441.8	2348.4	2637.4	2836.8	3103.0	3420.0	3459.7
30°	3174.3	3122.1	2719.8	2734.5	2562.4	2390.3	2697.8	2758.1	3146.4	3545.0	3545.8
32.5°	3341.3	3433.2	3029.5	2829.4	2768.4	2639.7	2605.1	2876.5	3095.7	3771.6	3692.9
35°	3642.1	3713.5	3267.8	3107.4	2900.7	2755.9	2856.6	2954.4	3306.7	4069.4	3911.3
37.5°	4198.9	4116.5	3710.5	3458.2	3381.0	3172.1	3228.0	3159.6	3536.2	4404.1	4339.4
40°	4521.0	4449.7	4022.4	3882.6	3576.7	3603.1	3533.3	3583.3	3842.9	4760.1	4739.5
42.5°	4838.7	4743.1	4382.0	4284.9	3979.7	3850.3	3862.8	4024.6	4315.8	5335.2	5266.8
45°	5152.8	4907.9	4749.8	4775.5	4628.4	4362.9	4381.3	4533.5	4832.1	5992.7	5835.3
47.5°	5393.3	5191.0	5067.5	5035.9	4963.0	5318.3	5159.4	5221.2	5352.9	6578.2	6518.6
50°	5848.6	5612.5	5451.4	5405.8	5652.9	6147.2	5823.6	5690.4	5970.7	7335.0	7304.1
52.5°	6577.4	6283.2	6014.8	6011.8	6369.3	6690.0	6918.0	6688.5	6791.5	8110.2	8198.4
55°	7213.6	6873.1	6631.9	6765.0	7273.9	7470.3	8244.8	8065.3	7978.5	8892.7	9145.0
57.5°	7451.2	7053.3	6895.9	7092.3	7842.5	8851.5	9670.1	9198.0	9113.4	9778.3	10307.1
60°	6929.7	6509.0	6518.6	6888.5	8188.1	9865.8	11228.6	10827.8	10332.1	10880.7	11397.1
62.5°	5444.1	5063.8	5311.7	5874.3	7898.4	10851.3	13317.4	13486.6	11724.3	11795.0	12001.6
65°	3700.2	3436.9	3660.5	4211.4	6406.1	11389.0	15306.9	15985.0	12992.3	12393.6	12262.7
67.5°	2435.2	2249.1	2292.5	2658.8	4410.0	9709.1	16637.4	17376.5	14151.4	12884.9	11802.3
70°	1885.8	1735.7	1716.6	1908.6	2615.4	6745.1	15848.9	16972.8	14857.5	12424.5	10287.2
72.5°	1479.8	1365.8	1376.1	1560.7	2025.5	3742.1	12264.2	14433.1	13794.0	10715.3	7903.5
75°	1154.0	1060.6	1112.8	1323.9	1873.3	2325.6	8461.7	10954.3	10664.5	7934.4	4507.8
77.5°	837.7	777.4	851.7	1127.5	1760.7	1995.4	5267.5	7642.4	6831.9	4073.8	1546.7
80°	549.4	515.6	576.6	919.4	1596.7	1920.3	3255.3	4682.8	3375.9	1144.4	585.4
82.5°	323.6	308.9	359.7	622.2	1283.4	1799.7	2171.1	2602.1	1381.2	483.9	311.1
85°	169.9	158.9	213.3	357.4	884.8	1643.1	1709.3	1557.8	667.1	210.3	148.6
87.5°	56.6	55.2	90.5	138.3	334.6	872.3	912.0	739.9	275.1	61.0	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°	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3	1642.3
2.5°	1996.8	1967.4	1798.3	1821.8	1843.9	1832.8	1826.2	1749.7	1742.4	1851.2	1842.4
5°	2516.1	2394.0	2249.8	2243.2	2148.3	2051.3	2070.4	2039.5	2048.3	2093.2	2097.6
7.5°	2790.4	2638.2	2500.6	2277.1	2087.3	1933.6	1957.9	1950.5	1930.6	2032.1	2059.4
10°	2785.3	2649.9	2494.8	2224.1	2096.1	1971.1	1821.1	1679.1	1637.2	1587.2	1591.6
12.5°	2969.1	2849.3	2510.9	2235.1	2061.6	1846.1	1565.1	1409.9	1261.4	1258.4	1220.9
15°	3026.5	2938.3	2545.5	2171.9	1819.6	1510.7	1220.2	1051.7	944.4	923.0	891.4
17.5°	3171.4	3033.1	2440.3	1967.4	1538.6	1181.2	917.1	799.5	790.6	805.4	789.2
20°	3181.0	2956.6	2250.6	1665.1	1236.3	895.1	748.0	689.1	720.8	756.8	755.3
22.5°	3172.9	2860.3	2086.6	1407.7	928.9	719.3	655.3	642.1	671.5	725.2	731.8
25°	3090.5	2828.7	1881.4	1156.2	753.9	616.3	598.7	606.8	643.5	706.8	706.8
27.5°	3176.6	2700.0	1623.9	940.7	634.0	548.7	561.2	581.8	609.0	681.1	694.3
30°	3148.6	2742.6	1416.5	757.5	559.0	501.6	529.5	550.1	581.0	656.1	662.7
32.5°	3223.6	2628.6	1242.2	636.9	509.7	483.2	489.8	517.8	558.2	617.1	628.8
35°	3338.4	2670.5	1042.2	572.9	485.4	461.9	474.4	496.5	536.9	594.3	603.8
37.5°	3704.6	2668.3	903.9	537.6	481.0	457.5	463.4	478.8	525.9	578.1	600.2
40°	3940.0	2821.3	778.1	529.5	475.9	455.3	450.1	467.0	504.5	566.3	581.8
42.5°	4382.0	2914.7	723.7	526.6	475.1	442.8	437.6	457.5	494.2	551.6	575.1
45°	4849.0	3047.8	680.3	525.1	472.9	440.6	425.1	450.1	481.0	536.2	563.4
47.5°	5398.5	3329.5	656.1	520.0	468.5	443.5	420.7	433.2	467.8	522.9	550.1
50°	6117.8	3702.4	661.2	512.6	475.1	444.2	414.1	420.0	451.6	505.3	533.2
52.5°	6992.2	4279.8	694.3	515.6	479.5	440.6	411.1	408.2	435.4	482.5	510.4
55°	8046.2	5099.1	793.6	529.5	479.5	439.8	406.7	393.5	414.1	452.3	479.5
57.5°	9317.8	6047.9	987.8	536.2	475.9	435.4	397.2	373.6	386.1	417.8	443.5
60°	10410.0	6813.5	1187.8	540.6	483.2	425.1	378.0	348.6	356.7	381.0	403.8
62.5°	10966.8	7028.3	1248.1	536.9	503.1	418.5	355.2	322.1	322.9	343.5	364.1
65°	11071.2	6742.2	1006.1	533.2	528.8	417.8	339.1	299.3	294.2	308.9	326.6
67.5°	10326.9	5852.2	725.9	525.1	531.8	413.3	328.0	281.0	267.7	278.0	292.7
70°	8768.4	4713.0	609.7	509.0	496.5	391.3	308.9	261.8	244.2	251.5	262.6
72.5°	6537.0	3486.9	531.8	474.4	432.5	334.6	279.5	240.5	222.1	227.3	235.4
75°	3631.8	1860.0	445.0	412.6	353.0	270.7	238.3	213.3	197.1	199.3	208.1
77.5°	1206.2	686.2	326.6	327.3	267.0	208.9	196.4	182.4	169.9	170.6	178.0
80°	546.5	379.5	233.9	235.4	186.1	151.5	150.8	146.4	138.3	136.1	141.2
82.5°	317.0	230.2	160.3	153.0	119.9	98.6	109.6	107.4	105.2	97.1	98.6
85°	155.9	123.6	83.8	79.4	66.2	49.3	58.8	61.0	58.8	50.0	49.3
87.5°	38.2	40.5	20.6	19.1	11.0	5.1	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)