

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: P368564

Luminaire Tested: **MSA-SA4C-830-U-SL3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368564  
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-SA4C-830-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: 18761 lumens  
Efficiency: N/A  
Efficacy: 83.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G3

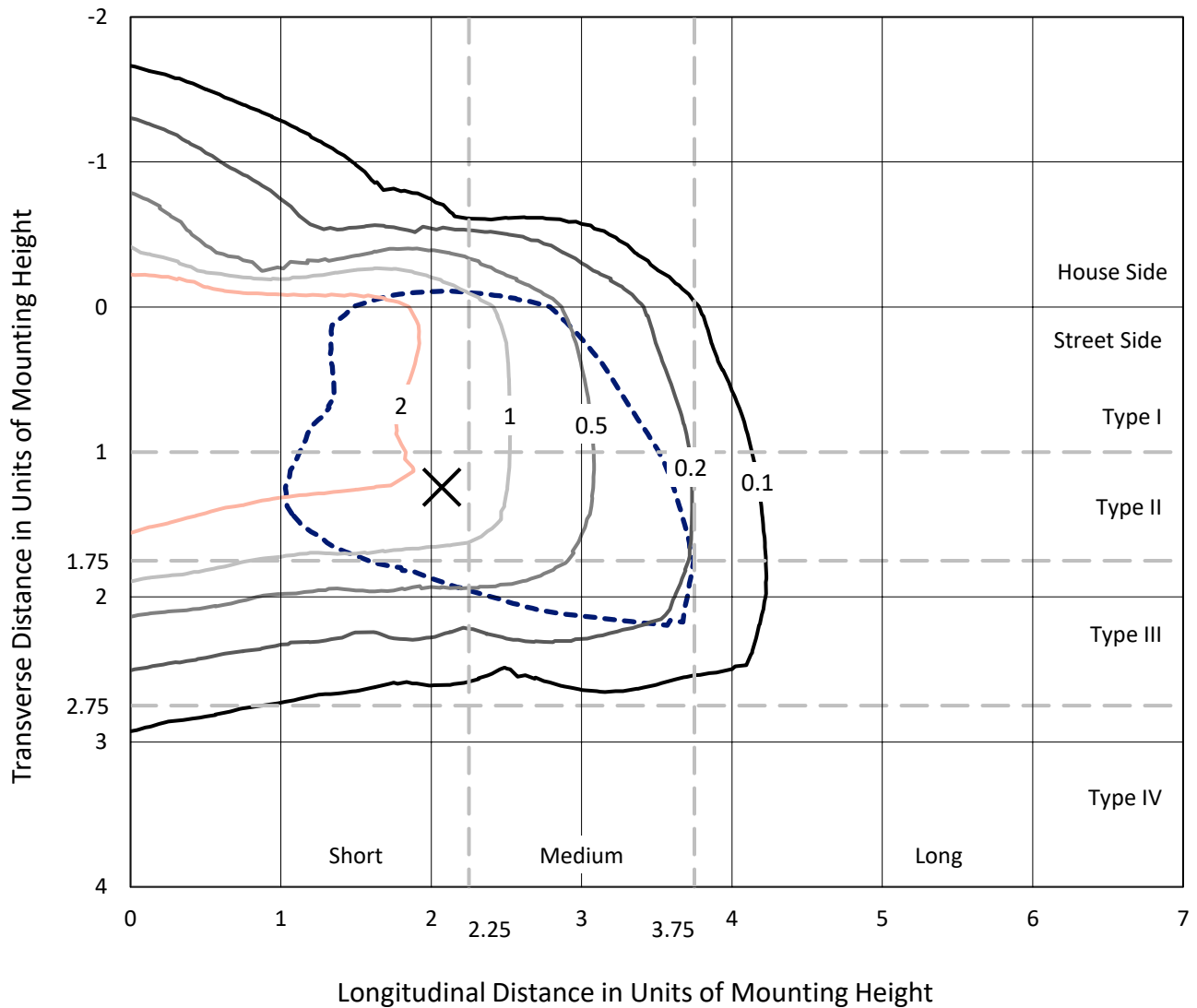
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

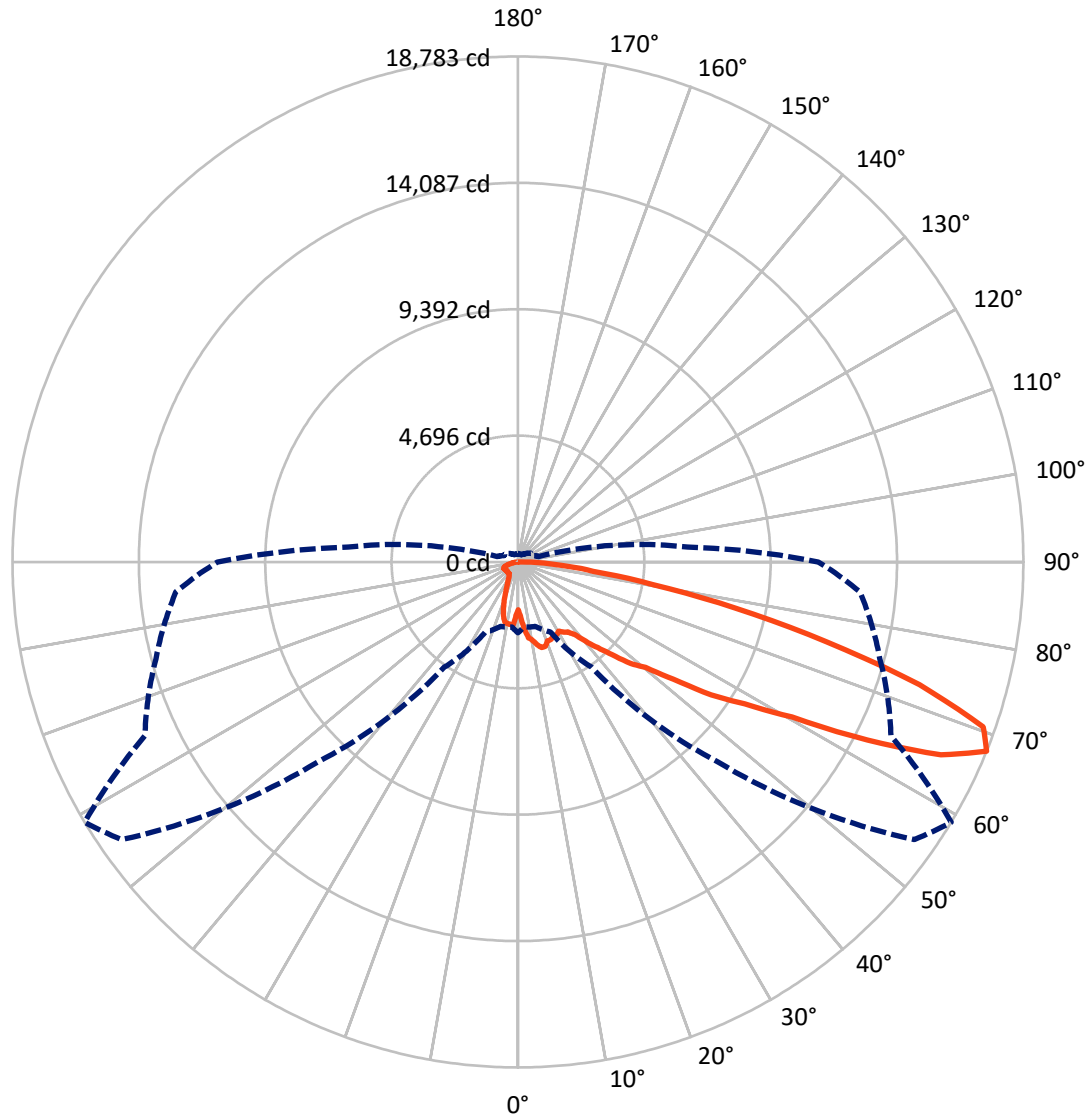
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.8 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	2823.9	0.0	2823.9
	% Fixture	15.1	0.0	15.1
<b>Street Side</b>	Lumens	15937.1	0.0	15937.1
	% Fixture	84.9	0.0	84.9
<b>Total</b>	Lumens	18761.0	0.0	18761.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	231.9	1.2
10°-20°	686.1	3.7
20°-30°	979.8	5.2
30°-40°	1443.9	7.7
40°-50°	2439.4	13.0
50°-60°	4245.1	22.6
60°-70°	5409.6	28.8
70°-80°	2864.4	15.3
80°-90°	460.8	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°	18761.0	100.0
0°-180°	18761.0	100.0

**Coefficient of Utilization**



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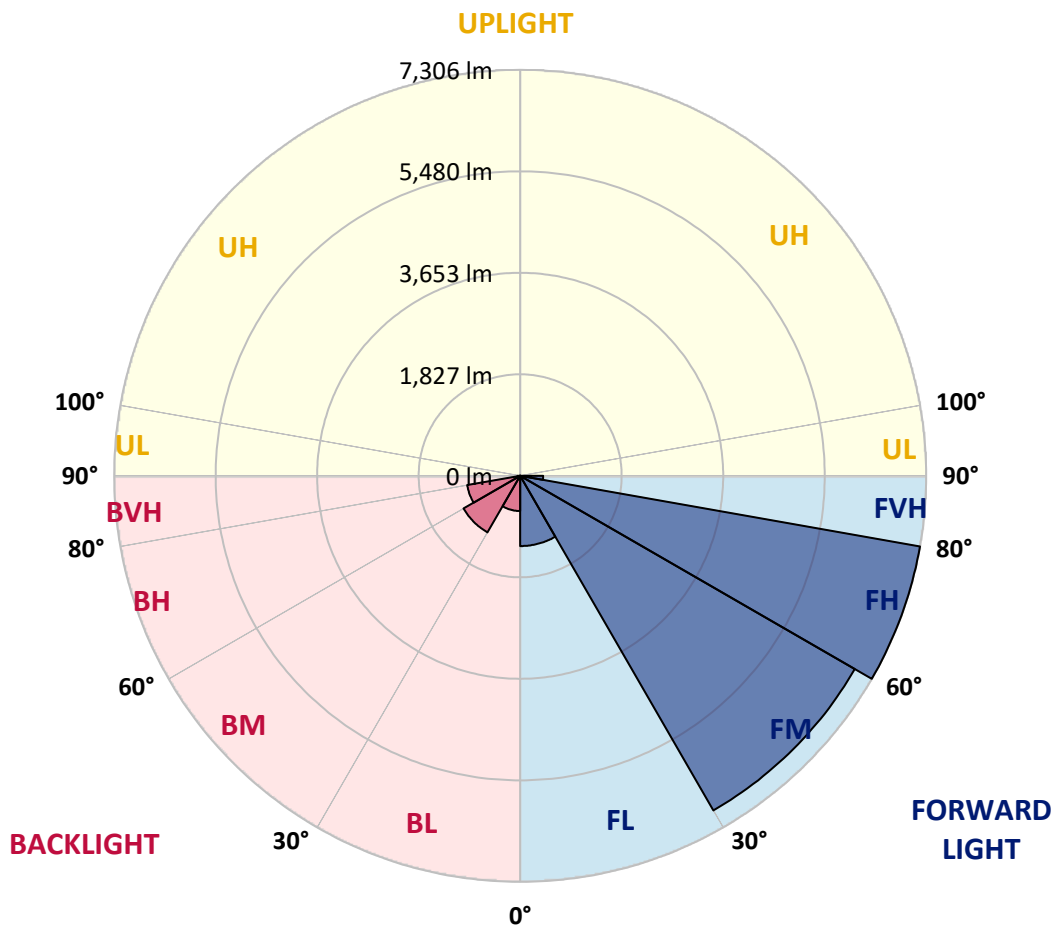
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1264.5	6.7			
FM (30°-60°)	6952.6	37.1			
FH (60°-80°)	7306.1	38.9			G3/7500
FVH (80°-90°)	413.9	2.2			G3/500
BL (0°-30°)	633.3	3.4	B2/1000		
BM (30°-60°)	1175.9	6.3	B2/2500		
BH (60°-80°)	967.9	5.2	B2/1000		G2/1000
BVH (80°-90°)	46.9	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°	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3
2.5°	2216.5	2113.2	2003.5	2034.5	2097.3	2125.9	2094.9	2064.7	2025.7	1979.6	2137.0
5°	2688.0	2534.5	2512.3	2511.5	2489.2	2400.2	2514.7	2506.7	2552.8	2600.5	2723.0
7.5°	2822.3	2765.1	2703.1	2732.5	2620.4	2615.6	2793.7	2844.6	2933.6	2904.2	3068.8
10°	2753.2	2688.8	2721.4	2709.4	2719.8	2837.4	2946.4	2949.5	3044.9	3138.7	3033.0
12.5°	2631.5	2636.3	2765.9	2761.1	2928.1	3146.7	3179.3	3153.9	3309.7	3246.1	3336.7
15°	2718.2	2776.2	2743.6	2771.4	2837.4	3115.7	3206.3	3298.5	3446.4	3503.7	3413.0
17.5°	2856.5	2887.5	2741.2	2726.1	2862.1	2994.1	3219.0	3297.8	3320.8	3728.7	3600.7
20°	2797.7	2860.5	2717.4	2533.7	2759.5	2934.4	3156.2	3132.4	3244.5	3746.1	3639.6
22.5°	2964.6	2860.5	2678.4	2548.0	2627.5	2788.1	2976.6	3133.2	3266.0	3643.6	3696.1
25°	2996.4	2947.1	2777.0	2647.4	2620.4	2677.6	2946.4	3048.9	3273.1	3783.5	3665.8
27.5°	3190.4	3116.5	2769.9	2773.8	2639.5	2538.5	2851.0	3066.4	3354.2	3696.9	3739.8
30°	3431.3	3374.9	2940.0	2955.9	2769.9	2583.8	2916.1	2981.3	3401.1	3832.0	3832.8
32.5°	3611.8	3711.2	3274.7	3058.5	2992.5	2853.3	2816.0	3109.3	3346.2	4076.9	3991.8
35°	3937.0	4014.1	3532.3	3359.0	3135.6	2978.9	3087.9	3193.6	3574.4	4398.9	4227.9
37.5°	4538.8	4449.7	4010.9	3738.2	3654.7	3428.9	3489.4	3415.4	3822.5	4760.6	4690.6
40°	4887.0	4809.9	4348.0	4196.9	3866.2	3894.8	3819.3	3873.3	4154.0	5145.4	5123.1
42.5°	5230.5	5127.1	4736.7	4631.8	4301.9	4161.9	4175.5	4350.4	4665.2	5767.1	5693.2
45°	5569.9	5305.2	5134.3	5162.1	5003.1	4716.1	4735.9	4900.5	5223.3	6477.8	6307.7
47.5°	5829.9	5611.3	5477.7	5443.5	5364.8	5748.8	5577.1	5643.9	5786.2	7110.7	7046.3
50°	6322.0	6066.8	5892.7	5843.4	6110.5	6644.8	6295.0	6151.1	6454.0	7928.8	7895.4
52.5°	7109.9	6791.9	6501.7	6498.5	6884.9	7231.5	7478.0	7229.9	7341.2	8766.7	8862.1
55°	7797.6	7429.5	7168.7	7312.6	7862.8	8075.0	8912.2	8718.2	8624.4	9612.6	9885.3
57.5°	8054.4	7624.3	7454.1	7666.4	8477.3	9568.1	10453.0	9942.6	9851.1	10569.8	11141.4
60°	7490.7	7035.9	7046.3	7446.2	8851.0	10664.4	12137.6	11704.3	11168.5	11761.6	12319.7
62.5°	5884.8	5473.7	5741.7	6349.8	8537.7	11729.8	14395.5	14578.3	12673.5	12749.8	12973.2
65°	3999.8	3715.1	3956.8	4552.3	6924.6	12310.9	16546.0	17279.0	14044.1	13396.9	13255.4
67.5°	2632.3	2431.2	2478.1	2874.0	4767.0	10495.1	17984.2	18783.2	15297.0	13928.0	12757.7
70°	2038.4	1876.3	1855.6	2063.1	2827.1	7291.2	17131.9	18346.7	16060.2	13430.3	11120.0
72.5°	1599.6	1476.4	1487.5	1687.0	2189.5	4045.1	13257.0	15601.5	14910.6	11582.7	8543.3
75°	1247.4	1146.4	1202.9	1431.0	2024.9	2513.9	9146.7	11841.1	11527.8	8576.7	4872.7
77.5°	905.5	840.3	920.6	1218.8	1903.3	2156.9	5694.0	8261.1	7385.0	4403.6	1671.9
80°	593.9	557.3	623.3	993.8	1726.0	2075.8	3518.8	5061.9	3649.2	1237.1	632.8
82.5°	349.8	333.9	388.8	672.6	1387.3	1945.4	2346.9	2812.8	1493.1	523.1	336.3
85°	183.7	171.7	230.6	386.4	956.4	1776.1	1847.6	1683.9	721.1	227.4	160.6
87.5°	61.2	59.6	97.8	149.5	361.7	942.9	985.8	799.8	297.3	66.0	35.0
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°	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3
2.5°	2158.5	2126.7	1943.8	1969.3	1993.1	1981.2	1974.0	1891.4	1883.4	2001.1	1991.5
5°	2719.8	2587.8	2432.0	2424.8	2322.3	2217.3	2238.0	2204.6	2214.1	2262.6	2267.4
7.5°	3016.3	2851.7	2703.1	2461.4	2256.3	2090.1	2116.3	2108.4	2086.9	2196.6	2226.1
10°	3010.8	2864.5	2696.7	2404.1	2265.8	2130.7	1968.5	1815.0	1769.7	1715.7	1720.4
12.5°	3209.5	3079.9	2714.2	2416.1	2228.4	1995.5	1691.8	1524.1	1363.5	1360.3	1319.7
15°	3271.5	3176.1	2751.6	2347.7	1966.9	1633.0	1318.9	1136.9	1020.8	997.8	963.6
17.5°	3428.1	3278.7	2637.9	2126.7	1663.2	1276.8	991.4	864.2	854.6	870.5	853.1
20°	3438.5	3196.0	2432.8	1799.9	1336.4	967.5	808.5	744.9	779.1	818.1	816.5
22.5°	3429.7	3091.8	2255.5	1521.7	1004.1	777.5	708.4	694.1	725.9	783.9	791.0
25°	3340.7	3057.7	2033.7	1249.8	814.9	666.2	647.1	655.9	695.6	764.0	764.0
27.5°	3433.7	2918.5	1755.4	1016.8	685.3	593.1	606.6	628.9	658.3	736.2	750.5
30°	3403.5	2964.6	1531.2	818.9	604.2	542.2	572.4	594.7	628.1	709.2	716.3
32.5°	3484.6	2841.4	1342.8	688.5	551.0	522.3	529.5	559.7	603.4	667.0	679.7
35°	3608.6	2886.7	1126.5	619.3	524.7	499.3	512.8	536.6	580.4	642.4	652.7
37.5°	4004.5	2884.3	977.1	581.2	519.9	494.5	500.9	517.6	568.4	624.9	648.7
40°	4258.9	3049.7	841.1	572.4	514.4	492.1	486.6	504.8	545.4	612.2	628.9
42.5°	4736.7	3150.7	782.3	569.2	513.6	478.6	473.0	494.5	534.3	596.3	621.7
45°	5241.6	3294.6	735.4	567.6	511.2	476.2	459.5	486.6	519.9	579.6	609.0
47.5°	5835.5	3599.1	709.2	562.1	506.4	479.4	454.8	468.3	505.6	565.3	594.7
50°	6613.0	4002.1	714.7	554.1	513.6	480.2	447.6	454.0	488.1	546.2	576.4
52.5°	7558.3	4626.2	750.5	557.3	518.4	476.2	444.4	441.2	470.7	521.5	551.7
55°	8697.5	5511.9	857.8	572.4	518.4	475.4	439.6	425.3	447.6	488.9	518.4
57.5°	10072.1	6537.5	1067.7	579.6	514.4	470.7	429.3	403.9	417.4	451.6	479.4
60°	11252.7	7365.1	1284.0	584.3	522.3	459.5	408.6	376.8	385.6	411.8	436.5
62.5°	11854.6	7597.2	1349.2	580.4	543.8	452.4	384.0	348.2	349.0	371.3	393.5
65°	11967.5	7288.0	1087.6	576.4	571.6	451.6	366.5	323.6	318.0	333.9	353.0
67.5°	11162.9	6326.0	784.7	567.6	574.8	446.8	354.6	303.7	289.4	300.5	316.4
70°	9478.3	5094.5	659.1	550.2	536.6	423.0	333.9	283.0	263.9	271.9	283.8
72.5°	7066.2	3769.2	574.8	512.8	467.5	361.7	302.1	260.0	240.1	245.7	254.4
75°	3925.8	2010.6	481.0	446.0	381.6	292.6	257.6	230.6	213.1	215.5	225.0
77.5°	1303.8	741.8	353.0	353.8	288.6	225.8	212.3	197.2	183.7	184.4	192.4
80°	590.7	410.2	252.8	254.4	201.1	163.8	163.0	158.2	149.5	147.1	152.6
82.5°	342.7	248.8	173.3	165.4	129.6	106.5	118.5	116.1	113.7	104.9	106.5
85°	168.5	133.6	90.6	85.9	71.6	53.3	63.6	66.0	63.6	54.1	53.3
87.5°	41.3	43.7	22.3	20.7	11.9	5.6	9.5	9.5	11.9	8.0	4.0
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)