

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: P368454

Luminaire Tested: **MSA-SA4C-727-U-SL3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368454
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-727-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: 19745 lumens
Efficiency: N/A
Efficacy: 87.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G4

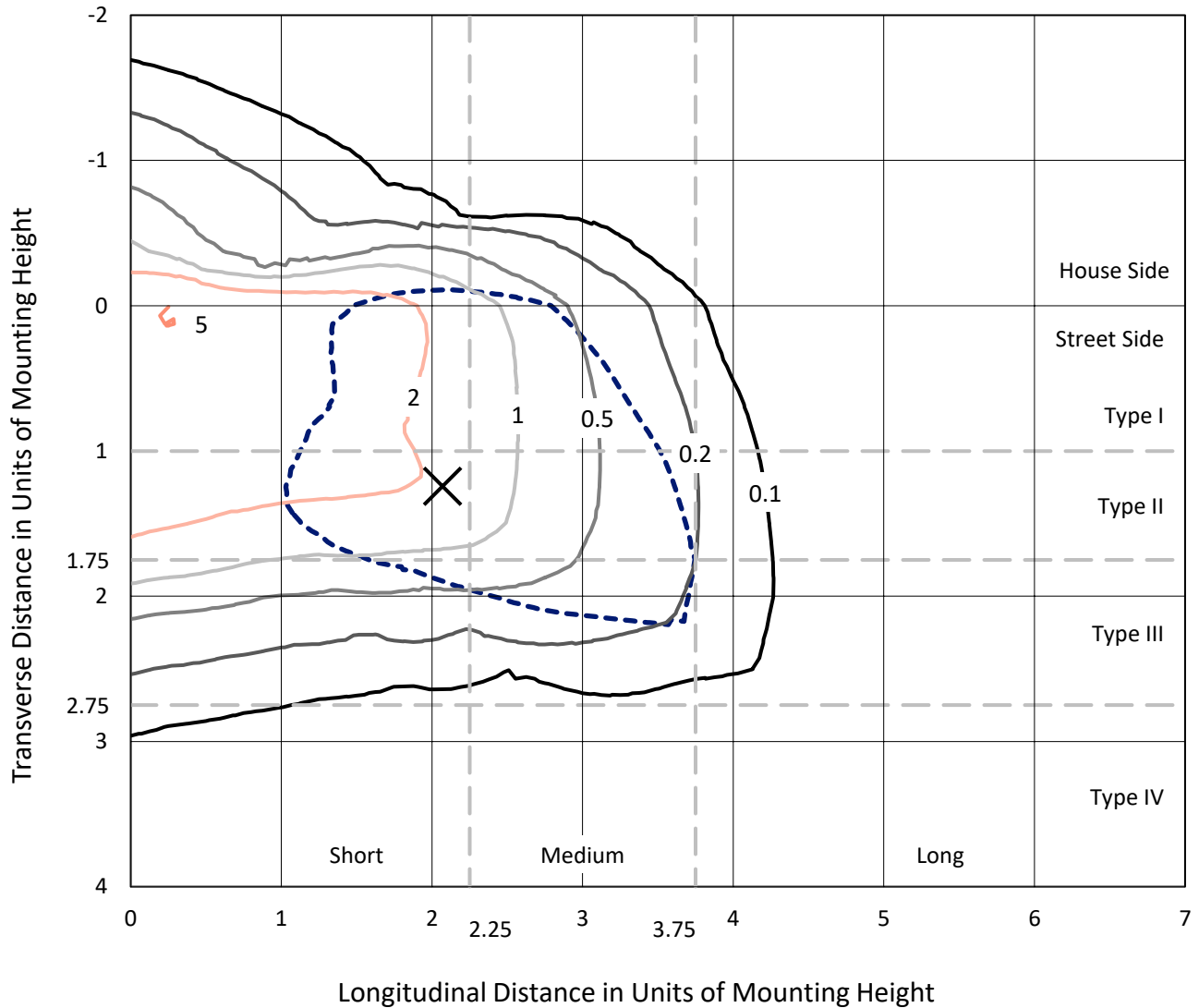
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

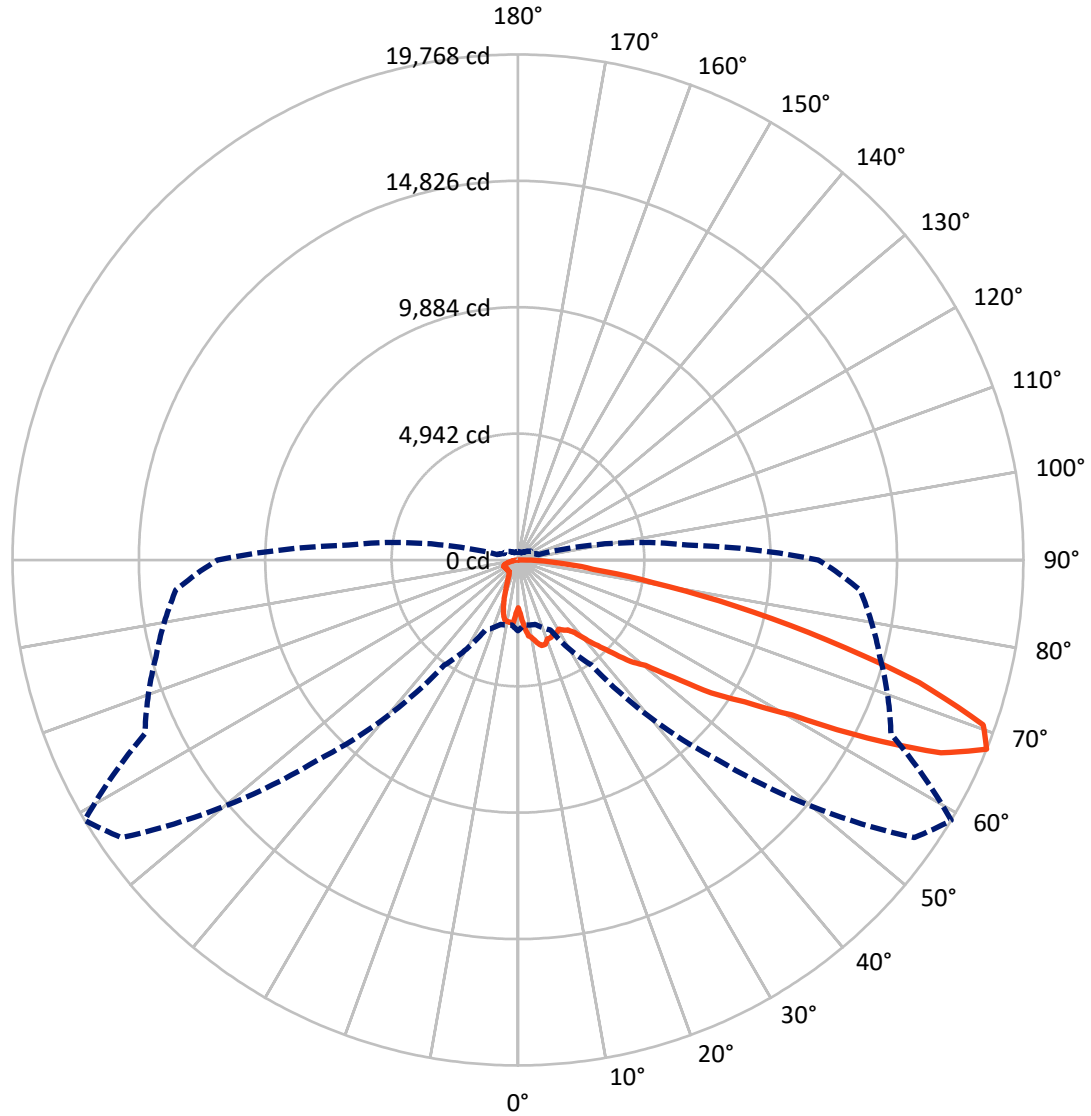
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.1 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
House Side	Lumens	2972.0	0.0	2972.0
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	16773.0	0.0	16773.0
	% Fixture	84.9	0.0	84.9
Total	Lumens	19745.0	0.0	19745.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	244.0	1.2
10°-20°	722.1	3.7
20°-30°	1031.2	5.2
30°-40°	1519.6	7.7
40°-50°	2567.4	13.0
50°-60°	4467.8	22.6
60°-70°	5693.3	28.8
70°-80°	3014.6	15.3
80°-90°	485.0	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°	19745.0	100.0
0°-180°	19745.0	100.0

Coefficient of Utilization



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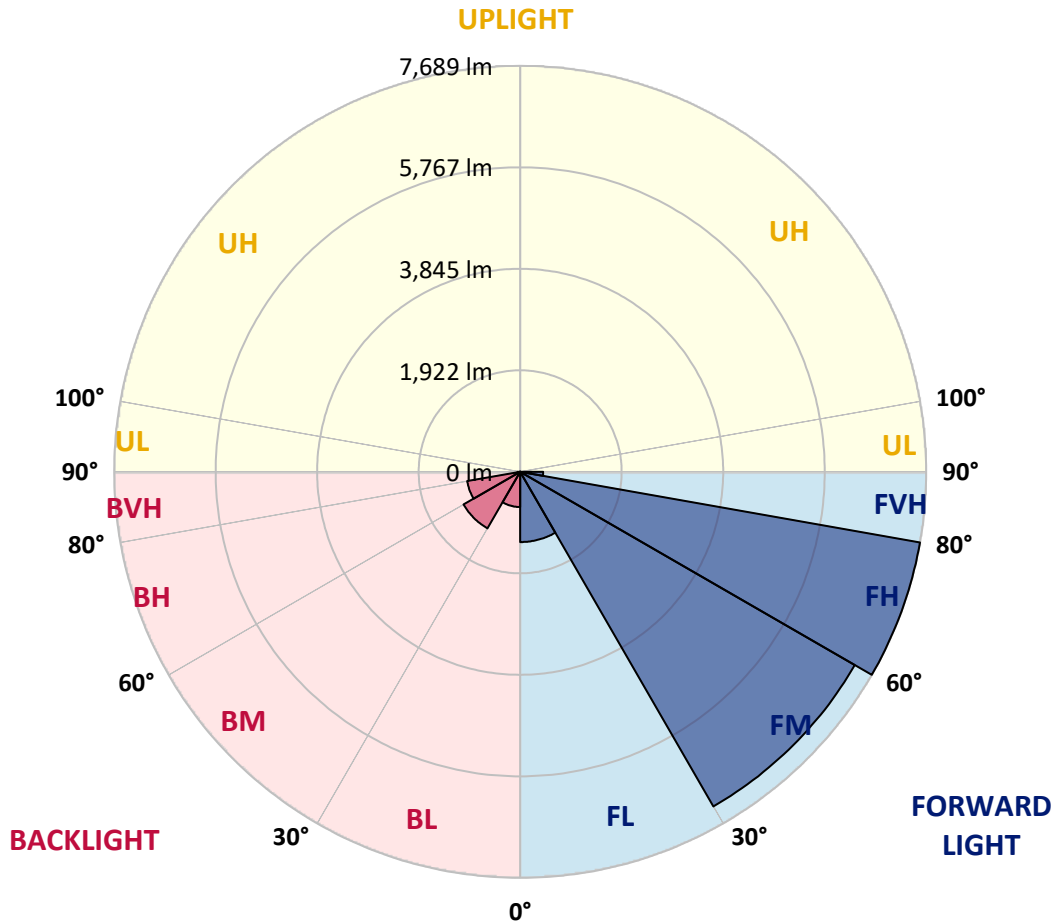
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1330.9	6.7			
FM (30°-60°)	7317.2	37.1			
FH (60°-80°)	7689.3	38.9			G4/12000
FVH (80°-90°)	435.6	2.2			G3/500
BL (0°-30°)	666.5	3.4	B2/1000		
BM (30°-60°)	1237.5	6.3	B2/2500		
BH (60°-80°)	1018.6	5.2	B3/2500		G3/2500
BVH (80°-90°)	49.4	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4
2.5°	2332.8	2224.0	2108.5	2141.2	2207.3	2237.4	2204.8	2173.0	2132.0	2083.4	2249.1
5°	2829.0	2667.5	2644.0	2643.2	2619.8	2526.1	2646.5	2638.2	2686.7	2736.9	2865.8
7.5°	2970.4	2910.1	2844.9	2875.8	2757.8	2752.8	2940.2	2993.8	3087.5	3056.5	3229.7
10°	2897.6	2829.8	2864.1	2851.5	2862.4	2986.3	3100.9	3104.2	3204.6	3303.4	3192.1
12.5°	2769.5	2774.6	2911.0	2905.9	3081.6	3311.7	3346.0	3319.3	3483.3	3416.3	3511.7
15°	2860.7	2921.8	2887.5	2916.8	2986.3	3279.1	3374.5	3471.6	3627.2	3687.4	3592.0
17.5°	3006.3	3039.0	2885.0	2869.1	3012.2	3151.1	3387.9	3470.7	3495.0	3924.2	3789.5
20°	2944.4	3010.5	2859.9	2666.6	2904.3	3088.3	3321.8	3296.7	3414.7	3942.6	3830.5
22.5°	3120.1	3010.5	2818.9	2681.7	2765.4	2934.4	3132.7	3297.5	3437.2	3834.7	3889.9
25°	3153.6	3101.7	2922.7	2786.3	2757.8	2818.1	3100.9	3208.8	3444.8	3982.0	3858.1
27.5°	3357.8	3279.9	2915.1	2919.3	2777.9	2671.6	3000.5	3227.2	3530.1	3890.8	3935.9
30°	3611.3	3551.9	3094.2	3110.9	2915.1	2719.3	3069.1	3137.7	3579.5	4033.0	4033.8
32.5°	3801.2	3905.8	3446.5	3218.9	3149.4	3003.0	2963.7	3272.4	3521.8	4290.7	4201.2
35°	4143.4	4224.6	3717.6	3535.1	3300.0	3135.2	3249.8	3361.1	3761.9	4629.6	4449.7
37.5°	4776.8	4683.1	4221.3	3934.3	3846.4	3608.8	3672.4	3594.6	4023.0	5010.3	4936.7
40°	5143.3	5062.2	4576.0	4417.0	4069.0	4099.1	4019.6	4076.5	4371.9	5415.3	5391.8
42.5°	5504.8	5396.0	4985.2	4874.7	4527.5	4380.2	4394.5	4578.5	4909.9	6069.6	5991.8
45°	5862.1	5583.4	5403.5	5432.8	5265.5	4963.4	4984.3	5157.5	5497.3	6817.6	6638.5
47.5°	6135.7	5905.6	5765.0	5729.0	5646.2	6050.3	5869.6	5939.9	6089.7	7483.6	7415.9
50°	6653.6	6385.0	6201.8	6149.9	6431.0	6993.3	6625.2	6473.7	6792.5	8344.6	8309.5
52.5°	7482.8	7148.1	6842.7	6839.4	7246.0	7610.8	7870.2	7609.1	7726.3	9226.5	9326.9
55°	8206.6	7819.2	7544.7	7696.2	8275.2	8498.6	9379.6	9175.5	9076.7	10116.8	10403.8
57.5°	8476.8	8024.2	7845.1	8068.5	8922.0	10069.9	11001.2	10464.0	10367.8	11124.2	11725.8
60°	7883.6	7405.0	7415.9	7836.7	9315.2	11223.8	12774.2	12318.2	11754.3	12378.4	12965.8
62.5°	6193.4	5760.8	6042.8	6682.9	8985.5	12345.0	15150.5	15342.9	13338.2	13418.5	13653.6
65°	4209.5	3910.0	4164.4	4791.1	7287.8	12956.6	17413.8	18185.3	14780.7	14099.6	13950.6
67.5°	2770.4	2558.7	2608.1	3024.7	5017.0	11045.6	18927.5	19768.4	16099.3	14658.5	13426.9
70°	2145.4	1974.7	1952.9	2171.3	2975.4	7673.6	18030.5	19309.0	16902.6	14134.7	11703.2
72.5°	1683.5	1553.8	1565.5	1775.5	2304.3	4257.2	13952.3	16419.8	15692.7	12190.2	8991.4
75°	1312.8	1206.6	1266.0	1506.1	2131.1	2645.7	9626.5	12462.1	12132.5	9026.5	5128.3
77.5°	953.0	884.4	968.9	1282.7	2003.1	2270.0	5992.6	8694.4	7772.3	4634.6	1759.6
80°	625.0	586.5	656.0	1045.9	1816.5	2184.7	3703.3	5327.4	3840.5	1301.9	666.0
82.5°	368.2	351.4	409.2	707.9	1460.1	2047.5	2470.0	2960.3	1571.4	550.6	353.9
85°	193.3	180.7	242.6	406.6	1006.6	1869.2	1944.5	1772.2	758.9	239.3	169.0
87.5°	64.4	62.8	102.9	157.3	380.7	992.4	1037.5	841.7	312.9	69.4	36.8
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°	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4	1868.4
2.5°	2271.7	2238.2	2045.8	2072.6	2097.7	2085.1	2077.6	1990.6	1982.2	2106.0	2096.0
5°	2862.4	2723.5	2559.5	2552.0	2444.1	2333.6	2355.4	2320.2	2330.3	2381.3	2386.3
7.5°	3174.5	3001.3	2844.9	2590.5	2374.6	2199.7	2227.4	2219.0	2196.4	2311.9	2342.8
10°	3168.7	3014.7	2838.2	2530.2	2384.7	2242.4	2071.7	1910.2	1862.5	1805.6	1810.7
12.5°	3377.8	3241.5	2856.6	2542.8	2345.3	2100.2	1780.5	1604.0	1435.0	1431.6	1389.0
15°	3443.1	3342.7	2895.9	2470.8	2070.0	1718.6	1388.1	1196.5	1074.3	1050.1	1014.1
17.5°	3607.9	3450.6	2776.2	2238.2	1750.4	1343.8	1043.4	909.5	899.5	916.2	897.8
20°	3618.8	3363.6	2560.4	1894.3	1406.5	1018.3	850.9	784.0	820.0	861.0	859.3
22.5°	3609.6	3254.0	2373.8	1601.5	1056.8	818.3	745.5	730.5	763.9	825.0	832.5
25°	3515.9	3218.0	2140.3	1315.3	857.6	701.2	681.1	690.3	732.1	804.1	804.1
27.5°	3613.8	3071.6	1847.5	1070.2	721.3	624.2	638.4	661.8	692.8	774.8	789.9
30°	3582.0	3120.1	1611.5	861.8	635.9	570.6	602.4	625.9	661.0	746.4	753.9
32.5°	3667.3	2990.4	1413.2	724.6	579.8	549.7	557.3	589.1	635.1	702.0	715.4
35°	3797.9	3038.1	1185.6	651.8	552.2	525.5	539.7	564.8	610.8	676.1	686.9
37.5°	4214.6	3035.6	1028.3	611.6	547.2	520.4	527.1	544.7	598.3	657.7	682.8
40°	4482.3	3209.7	885.3	602.4	541.4	517.9	512.1	531.3	574.0	644.3	661.8
42.5°	4985.2	3315.9	823.3	599.1	540.5	503.7	497.8	520.4	562.3	627.5	654.3
45°	5516.5	3467.4	774.0	597.4	538.0	501.2	483.6	512.1	547.2	610.0	640.9
47.5°	6141.5	3787.8	746.4	591.6	533.0	504.5	478.6	492.8	532.2	594.9	625.9
50°	6959.8	4212.1	752.2	583.2	540.5	505.4	471.1	477.8	513.7	574.8	606.6
52.5°	7954.7	4868.9	789.9	586.5	545.5	501.2	467.7	464.4	495.3	548.9	580.7
55°	9153.7	5801.0	902.8	602.4	545.5	500.4	462.7	447.6	471.1	514.6	545.5
57.5°	10600.4	6880.4	1123.7	610.0	541.4	495.3	451.8	425.1	439.3	475.3	504.5
60°	11842.9	7751.4	1351.3	615.0	549.7	483.6	430.1	396.6	405.8	433.4	459.4
62.5°	12476.3	7995.7	1419.9	610.8	572.3	476.1	404.1	366.5	367.3	390.7	414.2
65°	12595.2	7670.2	1144.6	606.6	601.6	475.3	385.7	340.5	334.7	351.4	371.5
67.5°	11748.4	6657.8	825.8	597.4	604.9	470.2	373.2	319.6	304.6	316.3	333.0
70°	9975.4	5361.7	693.6	579.0	564.8	445.1	351.4	297.9	277.8	286.2	298.7
72.5°	7436.8	3966.9	604.9	539.7	492.0	380.7	318.0	273.6	252.7	258.5	267.8
75°	4131.7	2116.1	506.2	469.4	401.6	307.9	271.1	242.6	224.2	226.8	236.8
77.5°	1372.2	780.7	371.5	372.3	303.7	237.6	223.4	207.5	193.3	194.1	202.5
80°	621.7	431.7	266.1	267.8	211.7	172.4	171.5	166.5	157.3	154.8	160.7
82.5°	360.6	261.9	182.4	174.0	136.4	112.1	124.7	122.2	119.7	110.4	112.1
85°	177.4	140.6	95.4	90.4	75.3	56.1	66.9	69.4	66.9	56.9	56.1
87.5°	43.5	46.0	23.4	21.8	12.6	5.9	10.0	10.0	12.6	8.4	4.2
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)