

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: P368607

Luminaire Tested: **MSA-SA4D-730-U-SL3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368607
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-730-U-SL3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19674 lumens
Efficiency: N/A
Efficacy: 76.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G4

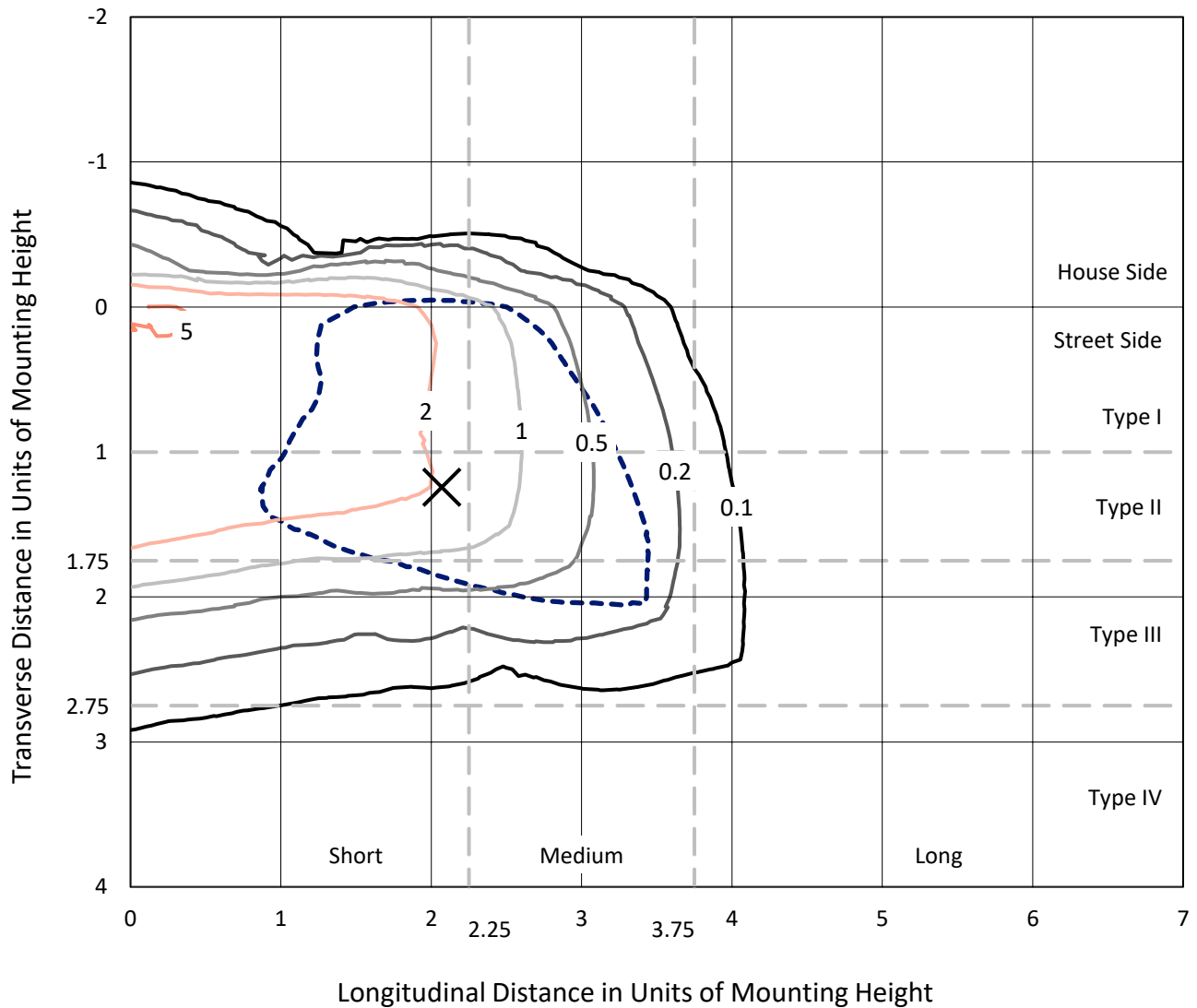
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

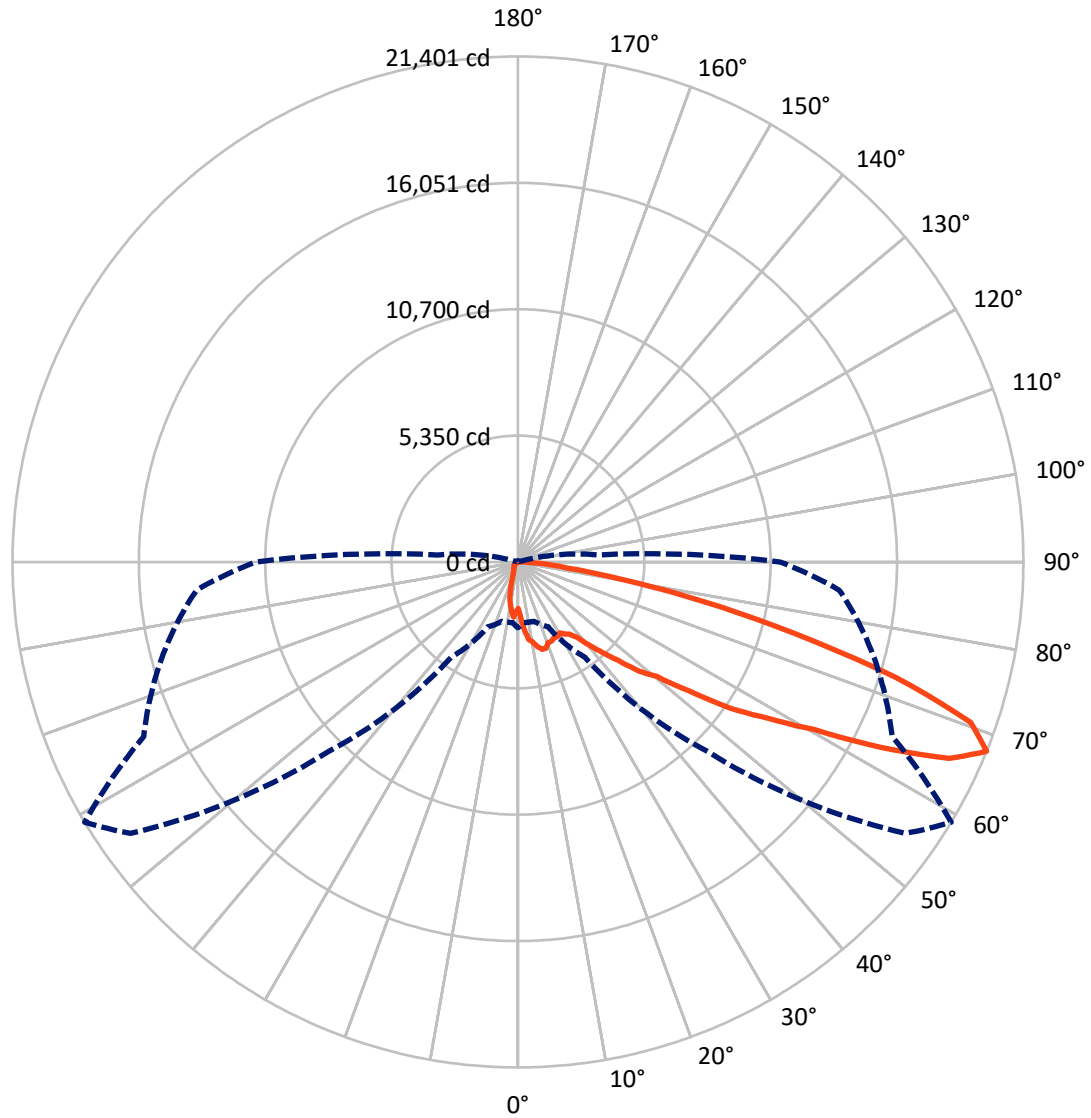
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.6 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	1673.1	0.0	1673.1
	% Fixture	8.5	0.0	8.5
Street Side	Lumens	18000.9	0.0	18000.9
	% Fixture	91.5	0.0	91.5
Total	Lumens	19674.0	0.0	19674.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	239.3	1.2
10°-20°	673.9	3.4
20°-30°	1002.4	5.1
30°-40°	1546.5	7.9
40°-50°	2760.0	14.0
50°-60°	4911.5	25.0
60°-70°	5720.2	29.1
70°-80°	2543.8	12.9
80°-90°	276.3	1.4
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°	19674.0	100.0
0°-180°	19674.0	100.0

Coefficient of Utilization



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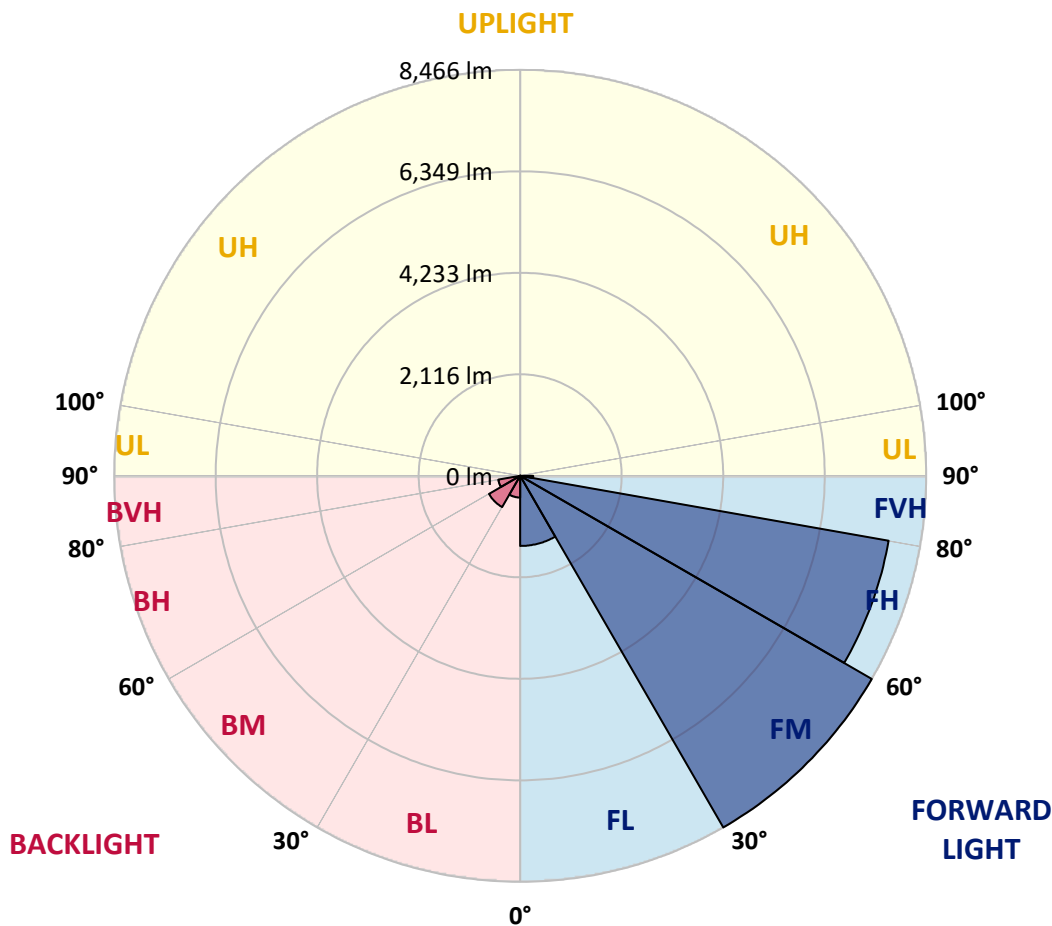
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1463.2	7.4			
FM (30°-60°)	8465.7	43.0			
FH (60°-80°)	7800.6	39.6			G4/12000
FVH (80°-90°)	271.3	1.4			G3/500
BL (0°-30°)	452.5	2.3	B1/500		
BM (30°-60°)	752.3	3.8	B1/1000		
BH (60°-80°)	463.5	2.4	B1/500		G1/500
BVH (80°-90°)	4.9	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4
2.5°	2566.2	2469.5	2332.1	2372.9	2409.8	2444.6	2386.8	2354.0	2338.0	2196.6	2373.9
5°	3150.9	3030.4	2967.6	2951.7	2911.8	2823.2	2970.6	2904.9	2926.8	2954.7	3012.4
7.5°	3329.2	3274.4	3183.8	3217.7	3066.2	3053.3	3257.5	3314.3	3389.0	3338.2	3407.9
10°	3237.6	3142.9	3185.8	3173.8	3167.8	3301.3	3444.8	3447.8	3559.3	3613.1	3377.0
12.5°	3056.3	3067.2	3220.6	3208.7	3407.9	3674.9	3707.8	3672.9	3855.2	3761.6	3725.7
15°	3176.8	3266.5	3181.8	3210.7	3281.4	3615.1	3731.7	3839.3	4011.6	4067.4	3825.3
17.5°	3322.3	3331.2	3176.8	3140.9	3319.3	3474.7	3749.6	3838.3	3855.2	4344.3	4049.5
20°	3243.6	3320.3	3136.0	2909.8	3186.8	3398.0	3676.9	3649.0	3762.6	4426.0	4100.3
22.5°	3452.8	3343.2	3107.1	2936.7	3030.4	3222.6	3458.7	3641.0	3811.4	4230.8	4166.0
25°	3472.7	3432.8	3222.6	3071.2	3055.3	3104.1	3432.8	3550.4	3817.4	4406.1	4110.2
27.5°	3696.8	3651.0	3220.6	3235.6	3086.2	2935.7	3307.3	3583.3	3925.9	4299.5	4228.8
30°	3985.7	3989.7	3434.8	3481.6	3268.5	3026.4	3409.9	3485.6	3999.7	4469.8	4316.4
32.5°	4278.6	4399.1	3858.2	3610.1	3543.4	3370.1	3282.4	3632.1	3919.0	4760.7	4535.6
35°	4723.9	4805.6	4206.9	3984.7	3722.7	3525.5	3629.1	3754.6	4208.8	5146.3	4823.5
37.5°	5478.0	5330.5	4832.5	4445.9	4383.2	4092.3	4144.1	4031.5	4504.7	5600.5	5393.3
40°	5902.4	5768.9	5250.9	5062.6	4662.1	4706.9	4543.6	4609.3	4934.1	6073.7	5912.3
42.5°	6344.7	6217.1	5762.9	5629.4	5247.9	5062.6	4988.9	5225.0	5592.5	6861.7	6656.5
45°	6788.9	6465.2	6272.9	6339.7	6168.3	5801.7	5716.1	5926.3	6311.8	7830.0	7441.4
47.5°	7163.5	6890.6	6746.1	6715.2	6648.5	7157.5	6808.9	6901.5	7071.9	8686.7	8419.7
50°	7838.9	7570.0	7343.8	7281.1	7605.8	8328.0	7790.1	7610.8	7951.5	9721.7	9553.3
52.5°	8814.2	8471.5	8111.9	8112.9	8725.5	9122.0	9377.0	9062.2	9126.0	10860.3	10785.6
55°	9598.2	9162.8	8865.0	9100.1	10013.6	10235.7	11209.0	10933.0	10850.4	11916.3	11824.6
57.5°	9705.8	9183.8	9042.3	9454.7	10704.9	12123.5	13170.5	12481.1	12354.6	12799.9	12982.2
60°	8701.6	8147.7	8254.3	8917.8	10930.1	13274.1	14971.6	14408.7	13604.8	13834.9	13960.4
62.5°	6490.1	6047.8	6346.6	7225.3	10062.4	14045.1	17056.6	17317.5	15055.2	14611.9	14585.0
65°	4210.8	3933.9	4130.2	4850.4	7614.8	13957.4	18919.4	20051.1	16197.8	15245.5	14781.3
67.5°	2785.3	2575.1	2603.0	3029.4	4924.1	11351.4	20033.1	21400.9	17482.9	15605.1	13656.6
70°	2076.0	1910.7	1920.6	2151.7	2922.8	7486.3	18480.1	20336.0	17952.1	14358.9	11022.7
72.5°	1497.3	1386.7	1479.3	1736.3	2329.1	3958.8	13774.1	16747.7	15653.9	11325.5	7426.5
75°	1037.0	964.3	1115.7	1452.4	2125.8	2457.6	9102.1	12055.7	10971.9	7105.7	3357.1
77.5°	574.8	552.9	771.0	1183.5	1929.6	2014.3	5575.6	7921.6	6085.6	2547.2	798.9
80°	251.0	243.1	373.6	888.6	1621.8	1820.0	3139.0	4392.1	2393.8	454.3	258.0
82.5°	107.6	103.6	159.4	534.9	1178.5	1522.2	1935.6	2113.9	823.8	140.5	146.4
85°	18.9	20.9	63.8	281.9	717.2	773.0	1401.6	1251.2	414.4	66.7	104.6
87.5°	0.0	0.0	10.0	54.8	134.5	221.2	607.7	438.3	78.7	21.9	17.9
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4	1968.4
2.5°	2398.8	2343.0	2130.8	2103.9	2075.0	2032.2	2016.3	1924.6	1912.7	2030.2	2030.2
5°	2985.5	2786.3	2584.1	2424.7	2282.2	2085.0	2029.2	1971.4	1924.6	1912.7	1949.5
7.5°	3295.4	3052.3	2734.5	2329.1	2000.3	1714.4	1594.9	1511.2	1417.6	1445.5	1460.4
10°	3278.4	3020.4	2615.0	2094.0	1729.4	1413.6	1109.7	932.4	833.8	785.0	779.0
12.5°	3444.8	3201.7	2534.3	1906.7	1441.5	1005.1	698.3	571.8	499.1	500.1	494.1
15°	3541.4	3276.4	2440.6	1669.6	1015.1	646.5	484.1	456.2	446.3	457.2	451.3
17.5°	3711.8	3355.1	2228.4	1316.0	698.3	488.1	445.3	434.3	447.3	470.2	464.2
20°	3698.8	3218.6	1926.6	927.4	516.0	439.3	421.4	404.4	431.3	455.3	451.3
22.5°	3686.9	3085.2	1642.7	684.4	431.3	400.5	385.5	378.5	392.5	420.4	426.4
25°	3581.3	3019.4	1354.8	514.0	390.5	363.6	356.6	350.7	355.6	378.5	377.6
27.5°	3710.8	2853.1	1046.0	431.3	361.6	329.7	323.8	313.8	303.8	323.8	326.7
30°	3683.9	2876.0	819.9	379.5	332.7	289.9	291.9	271.0	253.0	271.0	271.0
32.5°	3781.5	2708.6	656.5	344.7	303.8	273.0	248.0	226.1	213.2	224.1	226.1
35°	3923.9	2715.6	514.0	322.8	278.9	243.1	213.2	191.3	179.3	184.3	187.3
37.5°	4401.1	2667.8	429.4	305.8	270.0	225.1	194.3	165.4	157.4	163.4	166.4
40°	4711.9	2795.3	378.5	296.9	247.1	207.2	166.4	145.4	138.5	141.5	146.4
42.5°	5297.7	2866.0	353.6	286.9	226.1	177.3	142.5	130.5	120.5	124.5	128.5
45°	5924.3	2986.5	334.7	275.9	210.2	155.4	125.5	115.6	102.6	103.6	107.6
47.5°	6694.3	3273.4	312.8	257.0	188.3	141.5	111.6	96.6	84.7	83.7	88.7
50°	7728.3	3657.0	292.9	233.1	174.3	129.5	97.6	78.7	68.7	65.7	69.7
52.5°	8832.1	4153.1	272.0	216.2	157.4	113.6	83.7	63.8	54.8	52.8	55.8
55°	9925.9	4629.2	252.0	205.2	139.5	97.6	70.7	52.8	44.8	42.8	44.8
57.5°	11172.1	5144.3	226.1	183.3	122.5	84.7	58.8	43.8	36.9	34.9	35.9
60°	12110.5	5325.6	204.2	159.4	106.6	74.7	49.8	34.9	29.9	27.9	28.9
62.5°	12555.8	5029.7	183.3	138.5	93.6	64.8	41.8	28.9	24.9	22.9	22.9
65°	12440.3	4374.2	162.4	118.5	80.7	53.8	32.9	24.9	21.9	18.9	17.9
67.5°	11105.4	3422.9	138.5	99.6	67.7	43.8	27.9	23.9	19.9	17.9	14.9
70°	8807.2	2478.5	112.6	82.7	56.8	35.9	21.9	21.9	18.9	17.9	13.9
72.5°	5772.8	1560.0	91.6	66.7	46.8	27.9	16.9	19.9	17.9	17.9	13.0
75°	2501.4	557.9	73.7	53.8	38.9	18.9	14.9	17.9	18.9	17.9	14.9
77.5°	585.8	173.3	57.8	42.8	31.9	13.0	14.9	17.9	18.9	16.9	13.0
80°	220.2	73.7	37.9	27.9	24.9	8.0	13.0	11.0	10.0	7.0	2.0
82.5°	133.5	30.9	19.9	13.9	12.0	2.0	6.0	4.0	2.0	2.0	0.0
85°	94.6	14.9	11.0	10.0	6.0	0.0	1.0	0.0	0.0	1.0	0.0
87.5°	13.0	4.0	5.0	5.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
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)