

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: P596812

Luminaire Tested: **MSA-SA4D-827-U-SL3**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596812
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-SA4D-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: 18976 lumens
Efficiency: N/A
Efficacy: 73.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G3

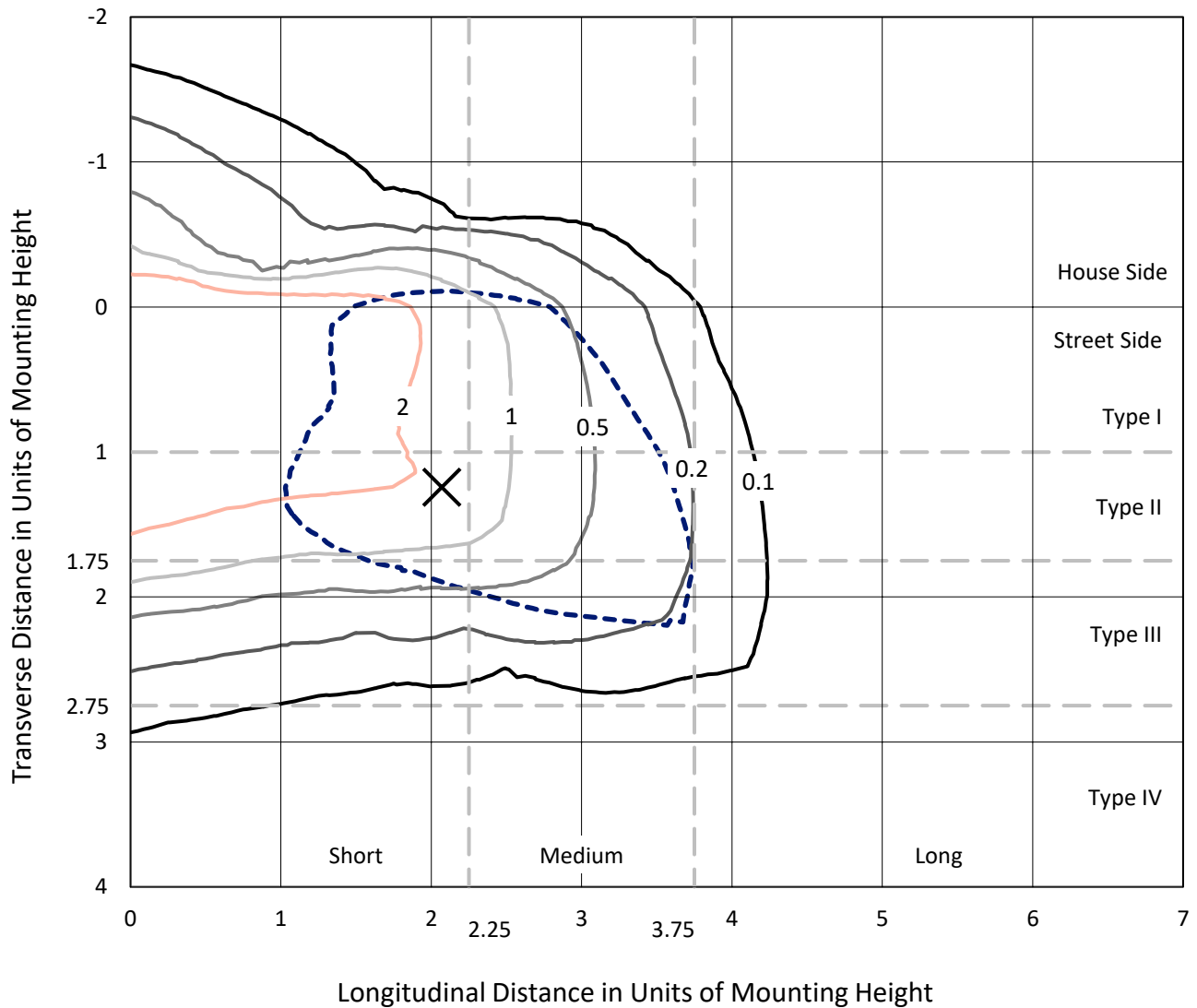
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

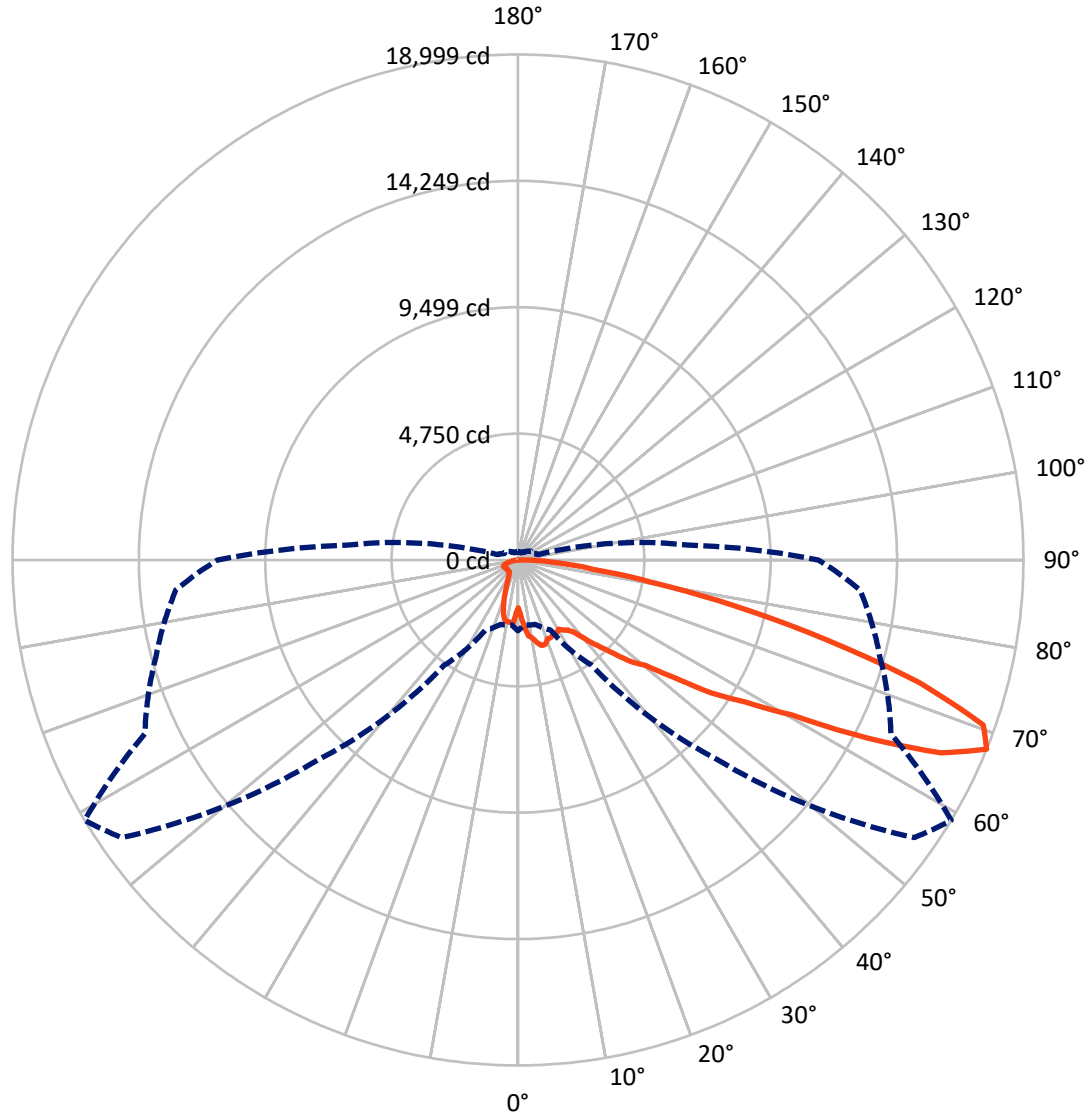
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.9 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	2856.3	0.0	2856.3
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	16119.7	0.0	16119.7
	% Fixture	84.9	0.0	84.9
Total	Lumens	18976.0	0.0	18976.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.5	1.2
10°-20°	694.0	3.7
20°-30°	991.1	5.2
30°-40°	1460.4	7.7
40°-50°	2467.4	13.0
50°-60°	4293.8	22.6
60°-70°	5471.5	28.8
70°-80°	2897.2	15.3
80°-90°	466.1	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°	18976.0	100.0
0°-180°	18976.0	100.0

Coefficient of Utilization



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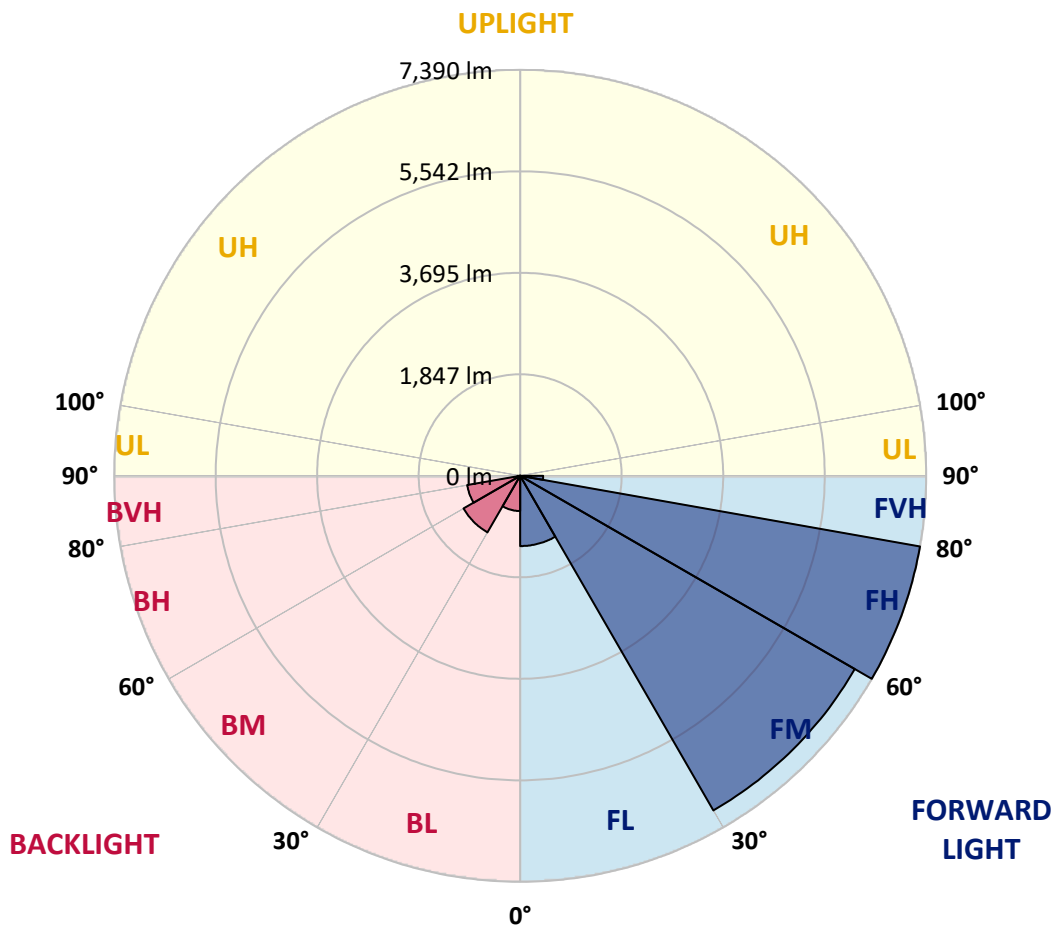
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1279.0	6.7			
FM (30°-60°)	7032.2	37.1			
FH (60°-80°)	7389.8	38.9			G3/7500
FVH (80°-90°)	418.6	2.2			G3/500
BL (0°-30°)	640.5	3.4	B2/1000		
BM (30°-60°)	1189.3	6.3	B2/2500		
BH (60°-80°)	979.0	5.2	B2/1000		G2/1000
BVH (80°-90°)	47.4	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°	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6
2.5°	2241.9	2137.4	2026.4	2057.8	2121.3	2150.3	2118.9	2088.3	2048.9	2002.3	2161.5
5°	2718.8	2563.6	2541.1	2540.3	2517.7	2427.7	2543.5	2535.4	2582.1	2630.3	2754.2
7.5°	2854.7	2796.8	2734.1	2763.8	2650.4	2645.6	2825.7	2877.2	2967.3	2937.5	3104.0
10°	2784.7	2719.6	2752.5	2740.5	2750.9	2870.0	2980.1	2983.3	3079.8	3174.7	3067.8
12.5°	2661.7	2666.5	2797.6	2792.8	2961.6	3182.8	3215.7	3190.0	3347.6	3283.3	3374.9
15°	2749.3	2808.0	2775.1	2803.2	2870.0	3151.4	3243.1	3336.3	3485.9	3543.8	3452.1
17.5°	2889.3	2920.6	2772.7	2757.4	2894.9	3028.4	3255.9	3335.5	3358.9	3771.4	3641.9
20°	2829.7	2893.3	2748.5	2562.8	2791.1	2968.1	3192.4	3168.3	3281.7	3789.1	3681.3
22.5°	2998.6	2893.3	2709.1	2577.2	2657.7	2820.1	3010.7	3169.1	3303.4	3685.3	3738.4
25°	3030.8	2980.9	2808.8	2677.8	2650.4	2708.3	2980.1	3083.9	3310.6	3826.9	3707.9
27.5°	3227.0	3152.2	2801.6	2805.6	2669.7	2567.6	2883.6	3101.5	3392.6	3739.2	3782.6
30°	3470.6	3413.5	2973.7	2989.8	2801.6	2613.4	2949.6	3015.5	3440.1	3875.9	3876.7
32.5°	3653.2	3753.7	3312.2	3093.5	3026.8	2886.0	2848.2	3145.0	3384.6	4123.6	4037.6
35°	3982.1	4060.1	3572.8	3397.5	3171.5	3013.1	3123.3	3230.2	3615.4	4449.3	4276.4
37.5°	4590.8	4500.7	4056.9	3781.0	3696.6	3468.2	3529.3	3454.6	3866.3	4815.2	4744.4
40°	4943.0	4865.0	4397.8	4245.0	3910.5	3939.4	3863.1	3917.7	4201.6	5204.4	5181.8
42.5°	5290.4	5185.9	4791.0	4684.9	4351.2	4209.6	4223.3	4400.2	4718.7	5833.2	5758.4
45°	5633.8	5366.0	5193.1	5221.2	5060.4	4770.1	4790.2	4956.7	5283.2	6552.1	6380.0
47.5°	5896.7	5675.6	5540.5	5505.9	5426.3	5814.7	5641.0	5708.5	5852.5	7192.2	7127.0
50°	6394.5	6136.3	5960.2	5910.4	6180.6	6720.9	6367.1	6221.6	6528.0	8019.6	7985.8
52.5°	7191.4	6869.7	6576.2	6573.0	6963.8	7314.4	7563.7	7312.8	7425.4	8867.2	8963.7
55°	7886.9	7514.6	7250.9	7396.4	7952.9	8167.6	9014.3	8818.1	8723.2	9722.8	9998.6
57.5°	8146.7	7711.6	7539.6	7754.3	8574.5	9677.7	10572.7	10056.5	9964.0	10691.0	11269.1
60°	7576.5	7116.6	7127.0	7531.5	8952.4	10786.6	12276.7	11838.5	11296.5	11896.3	12460.9
62.5°	5952.2	5536.5	5807.5	6422.6	8635.6	11864.2	14560.4	14745.4	12818.7	12895.9	13121.8
65°	4045.6	3757.7	4002.2	4604.5	7004.0	12452.0	16735.6	17477.0	14205.0	13550.5	13407.3
67.5°	2662.5	2459.0	2506.5	2906.9	4821.6	10615.4	18190.3	18998.5	15472.3	14087.6	12903.9
70°	2061.8	1897.8	1876.8	2086.7	2859.5	7374.7	17328.3	18557.0	16244.3	13584.2	11247.4
72.5°	1617.9	1493.3	1504.5	1706.4	2214.6	4091.4	13408.9	15780.3	15081.5	11715.4	8641.2
75°	1261.7	1159.6	1216.7	1447.4	2048.1	2542.7	9251.6	11976.8	11659.9	8675.0	4928.5
77.5°	915.9	850.0	931.2	1232.7	1925.1	2181.6	5759.2	8355.7	7469.6	4454.1	1691.1
80°	600.7	563.7	630.4	1005.2	1745.8	2099.6	3559.1	5119.9	3691.0	1251.2	640.1
82.5°	353.8	337.7	393.2	680.3	1403.2	1967.7	2373.8	2845.0	1510.2	529.1	340.1
85°	185.8	173.7	233.2	390.8	967.4	1796.4	1868.8	1703.2	729.3	230.0	162.4
87.5°	61.9	60.3	98.9	151.2	365.9	953.7	997.1	809.0	300.7	66.7	35.4
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°	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6	1795.6
2.5°	2183.2	2151.1	1966.1	1991.8	2016.0	2003.9	1996.7	1913.0	1905.0	2024.0	2014.4
5°	2750.9	2617.5	2459.8	2452.6	2348.9	2242.7	2263.6	2229.9	2239.5	2288.6	2293.4
7.5°	3050.9	2884.4	2734.1	2489.6	2282.1	2114.1	2140.6	2132.6	2110.9	2221.8	2251.6
10°	3045.3	2897.3	2727.6	2431.7	2291.8	2155.1	1991.0	1835.8	1790.0	1735.3	1740.1
12.5°	3246.3	3115.2	2745.3	2443.8	2254.0	2018.4	1711.2	1541.5	1379.1	1375.9	1334.9
15°	3309.0	3212.5	2783.1	2374.6	1989.4	1651.7	1334.1	1149.9	1032.5	1009.2	974.6
17.5°	3467.4	3316.2	2668.1	2151.1	1682.2	1291.4	1002.8	874.1	864.4	880.5	862.8
20°	3477.9	3232.6	2460.6	1820.6	1351.7	978.6	817.8	753.5	788.1	827.5	825.8
22.5°	3469.0	3127.3	2281.3	1539.1	1015.6	786.4	716.5	702.0	734.2	792.9	800.1
25°	3379.0	3092.7	2057.0	1264.1	824.2	673.9	654.6	663.4	703.6	772.8	772.8
27.5°	3473.1	2952.0	1775.5	1028.5	693.2	599.9	613.6	636.1	665.8	744.6	759.1
30°	3442.5	2998.6	1548.8	828.3	611.1	548.4	579.0	601.5	635.3	717.3	724.5
32.5°	3524.5	2874.0	1358.2	696.4	557.3	528.3	535.6	566.1	610.3	674.7	687.5
35°	3650.0	2919.8	1139.5	626.4	530.7	505.0	518.7	542.8	587.0	649.7	660.2
37.5°	4050.4	2917.4	988.3	587.8	525.9	500.2	506.6	523.5	575.0	632.0	656.2
40°	4307.7	3084.7	850.8	579.0	520.3	497.8	492.1	510.6	551.6	619.2	636.1
42.5°	4791.0	3186.8	791.3	575.8	519.5	484.1	478.5	500.2	540.4	603.1	628.8
45°	5301.7	3332.3	743.8	574.2	517.1	481.7	464.8	492.1	525.9	586.2	616.0
47.5°	5902.3	3640.3	717.3	568.5	512.2	484.9	460.0	473.6	511.4	571.7	601.5
50°	6688.8	4048.0	722.9	560.5	519.5	485.7	452.7	459.2	493.7	552.4	583.0
52.5°	7644.9	4679.3	759.1	563.7	524.3	481.7	449.5	446.3	476.0	527.5	558.1
55°	8797.2	5575.1	867.7	579.0	524.3	480.9	444.7	430.2	452.7	494.5	524.3
57.5°	10187.6	6612.4	1080.0	586.2	520.3	476.0	434.2	408.5	422.2	456.7	484.9
60°	11381.7	7449.5	1298.7	591.0	528.3	464.8	413.3	381.2	390.0	416.5	441.5
62.5°	11990.4	7684.3	1364.6	587.0	550.0	457.6	388.4	352.2	353.0	375.5	398.0
65°	12104.6	7371.5	1100.1	583.0	578.2	456.7	370.7	327.3	321.7	337.7	357.0
67.5°	11290.8	6398.5	793.7	574.2	581.4	451.9	358.6	307.2	292.7	304.0	320.0
70°	9586.9	5152.9	666.6	556.5	542.8	427.8	337.7	286.3	267.0	275.0	287.1
72.5°	7147.1	3812.4	581.4	518.7	472.8	365.9	305.6	263.0	242.8	248.5	257.3
75°	3970.8	2033.7	486.5	451.1	386.0	295.9	260.5	233.2	215.5	217.9	227.6
77.5°	1318.8	750.3	357.0	357.8	291.9	228.4	214.7	199.4	185.8	186.6	194.6
80°	597.5	414.9	255.7	257.3	203.4	165.7	164.8	160.0	151.2	148.8	154.4
82.5°	346.6	251.7	175.3	167.3	131.1	107.8	119.8	117.4	115.0	106.1	107.8
85°	170.5	135.1	91.7	86.8	72.4	53.9	64.3	66.7	64.3	54.7	53.9
87.5°	41.8	44.2	22.5	20.9	12.1	5.6	9.6	9.6	12.1	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)