

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: P368674

Luminaire Tested: **MSA-SA4D-760-U-SL3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368674
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-SA4D-760-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: 25813 lumens
Efficiency: N/A
Efficacy: 99.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G4

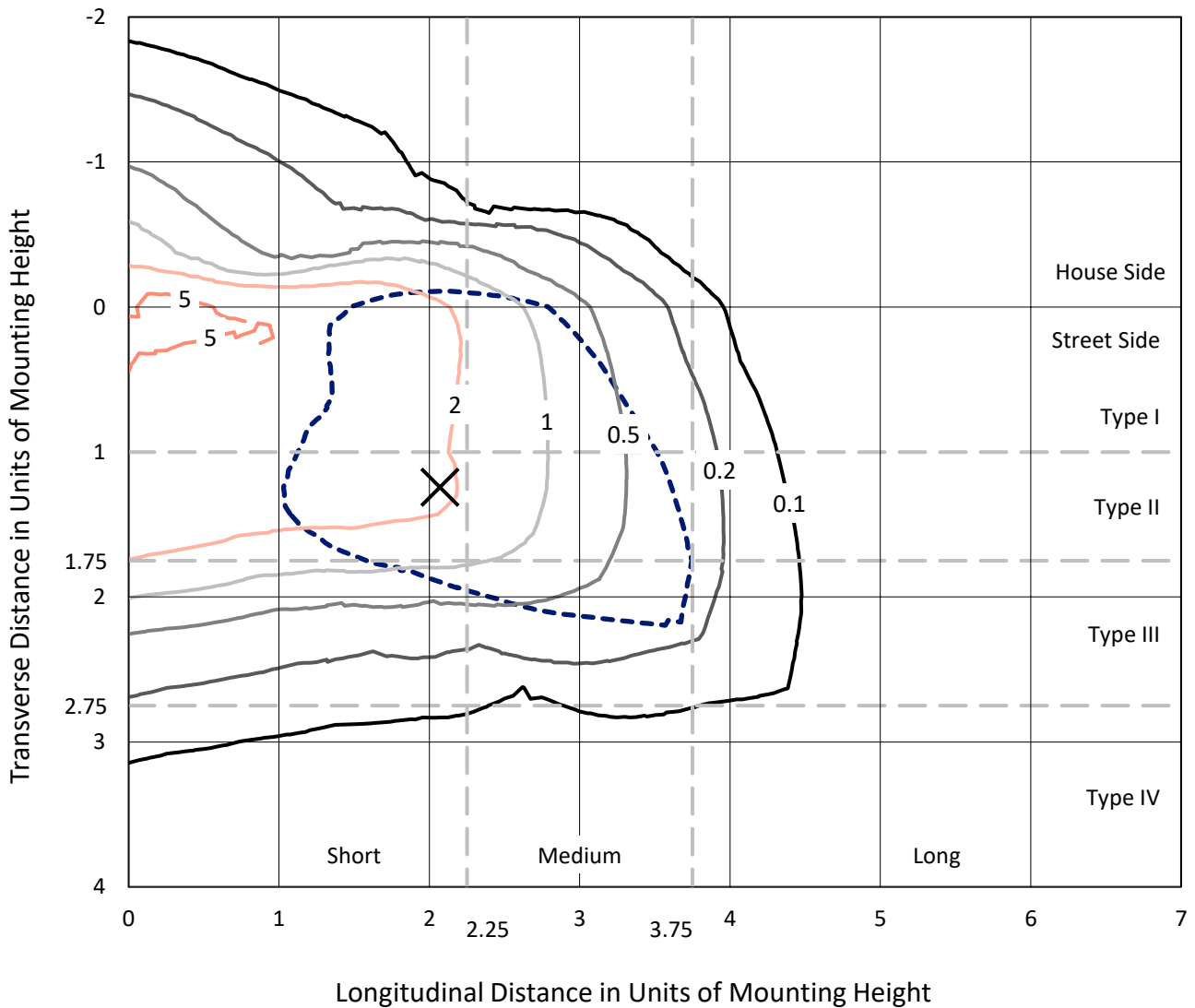
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

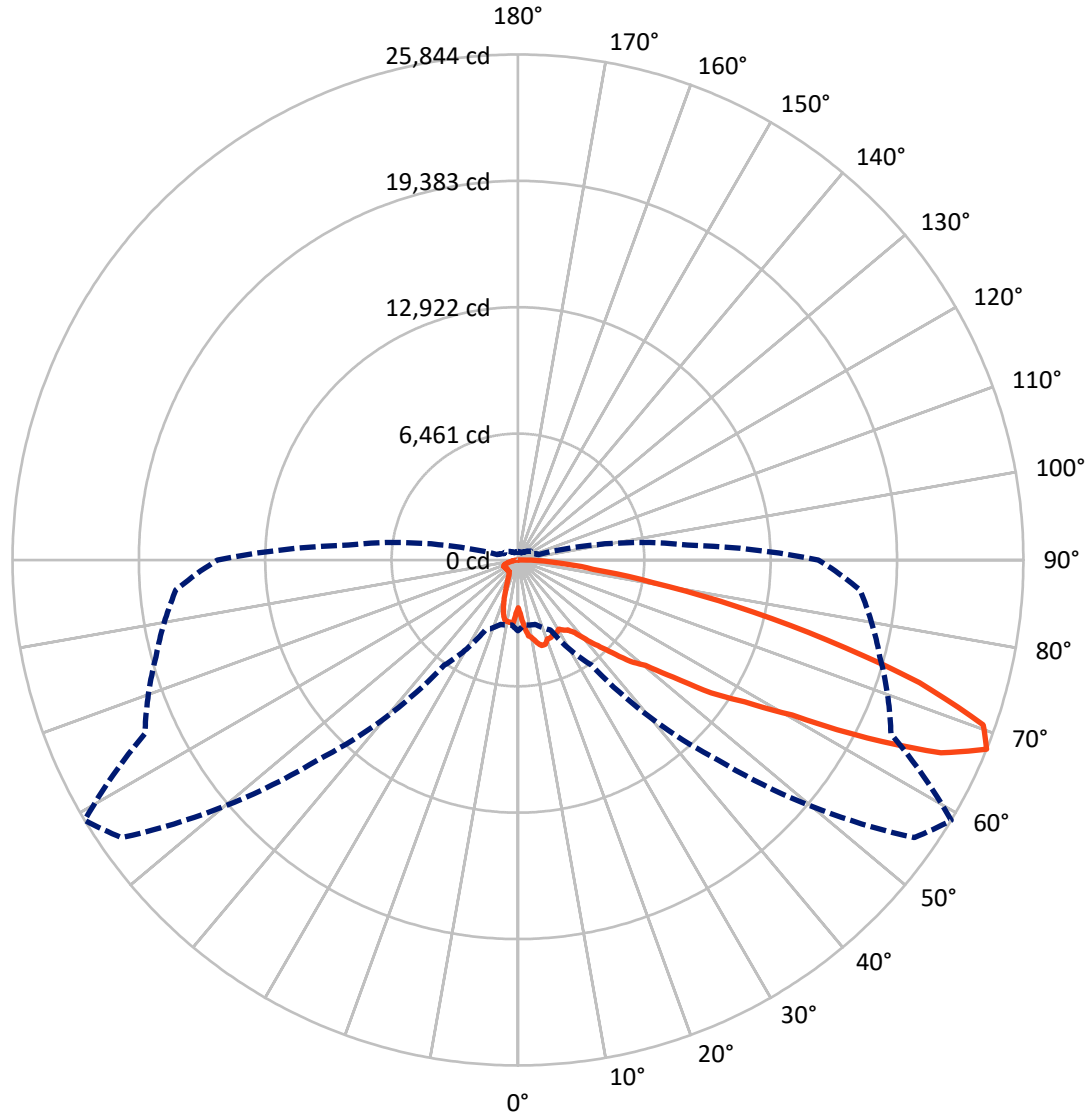
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.7 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	3885.4	0.0	3885.4
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	21927.6	0.0	21927.6
	% Fixture	84.9	0.0	84.9
Total	Lumens	25813.0	0.0	25813.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	319.0	1.2
10°-20°	944.0	3.7
20°-30°	1348.1	5.2
30°-40°	1986.6	7.7
40°-50°	3356.4	13.0
50°-60°	5840.8	22.6
60°-70°	7442.9	28.8
70°-80°	3941.1	15.3
80°-90°	634.0	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°	25813.0	100.0
0°-180°	25813.0	100.0

Coefficient of Utilization



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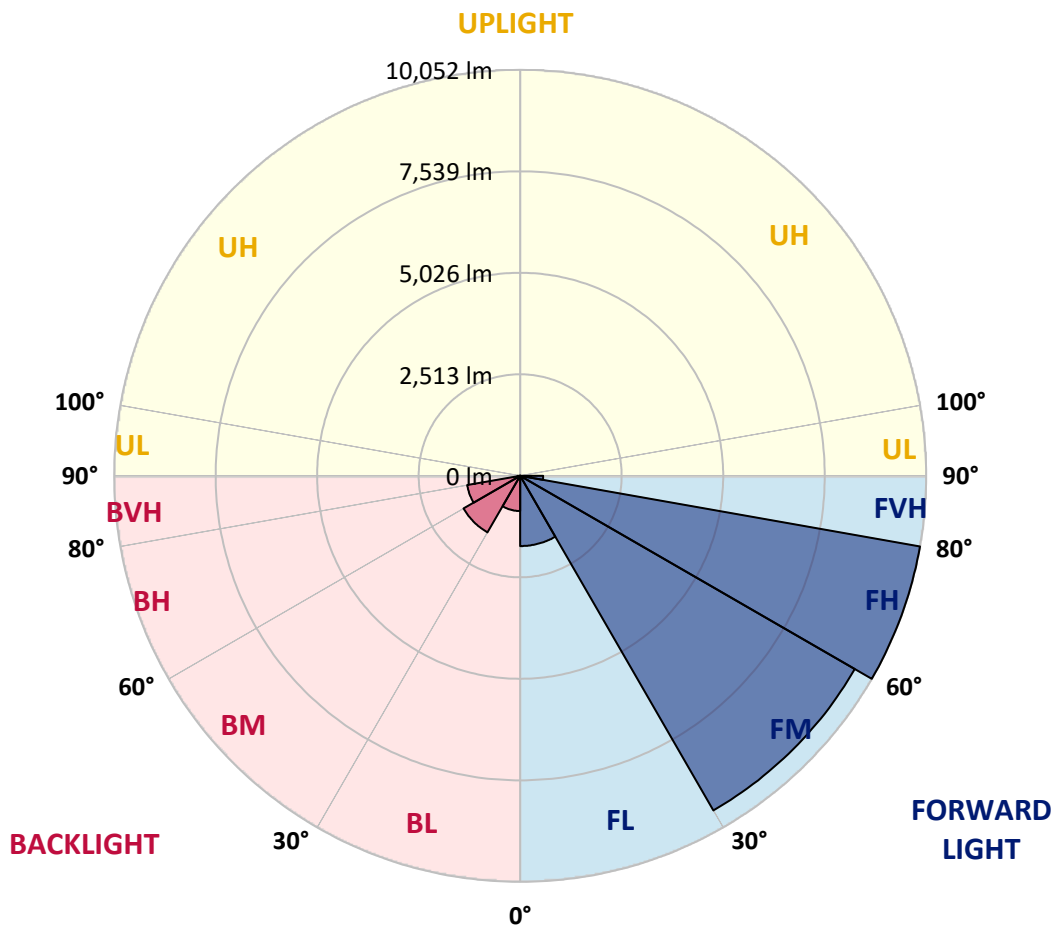
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1739.9	6.7			
FM (30°-60°)	9565.9	37.1			
FH (60°-80°)	10052.4	38.9			G4/12000
FVH (80°-90°)	569.4	2.2			G4/750
BL (0°-30°)	871.3	3.4	B2/1000		
BM (30°-60°)	1617.8	6.3	B2/2500		
BH (60°-80°)	1331.7	5.2	B3/2500		G3/2500
BVH (80°-90°)	64.5	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°	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6
2.5°	3049.7	2907.5	2756.5	2799.2	2885.6	2925.0	2882.3	2840.8	2787.2	2723.7	2940.3
5°	3698.3	3487.2	3456.6	3455.5	3424.9	3302.4	3459.9	3448.9	3512.4	3578.0	3746.5
7.5°	3883.2	3804.4	3719.1	3759.6	3605.4	3598.8	3843.8	3913.8	4036.3	3995.9	4222.3
10°	3788.0	3699.4	3744.3	3727.9	3742.1	3904.0	4053.8	4058.2	4189.5	4318.6	4173.1
12.5°	3620.7	3627.2	3805.5	3799.0	4028.7	4329.5	4374.3	4339.3	4553.7	4466.2	4590.9
15°	3739.9	3819.8	3774.9	3813.2	3904.0	4286.8	4411.5	4538.4	4741.9	4820.6	4695.9
17.5°	3930.2	3972.9	3771.6	3750.8	3937.9	4119.5	4429.0	4537.3	4569.1	5130.2	4954.1
20°	3849.3	3935.7	3738.8	3486.1	3796.8	4037.4	4342.6	4309.8	4464.0	5154.3	5007.7
22.5°	4079.0	3935.7	3685.2	3505.8	3615.2	3836.2	4095.4	4310.9	4493.6	5013.2	5085.4
25°	4122.8	4054.9	3820.9	3642.6	3605.4	3684.1	4053.8	4195.0	4503.4	5205.7	5043.8
27.5°	4389.7	4287.9	3811.0	3816.5	3631.6	3492.7	3922.6	4219.0	4615.0	5086.5	5145.5
30°	4721.1	4643.4	4045.1	4067.0	3811.0	3555.0	4012.3	4102.0	4679.5	5272.4	5273.5
32.5°	4969.4	5106.1	4505.6	4208.1	4117.3	3925.9	3874.5	4278.1	4604.1	5609.3	5492.3
35°	5416.8	5522.9	4860.0	4621.6	4314.2	4098.7	4248.6	4394.0	4918.0	6052.3	5817.1
37.5°	6244.8	6122.3	5518.5	5143.3	5028.5	4717.8	4801.0	4699.2	5259.3	6550.0	6453.8
40°	6724.0	6617.9	5982.3	5774.5	5319.4	5358.8	5254.9	5329.3	5715.4	7079.5	7048.8
42.5°	7196.5	7054.3	6517.2	6372.8	5918.9	5726.4	5745.0	5985.6	6418.8	7934.9	7833.1
45°	7663.6	7299.3	7064.2	7102.4	6883.7	6488.8	6516.1	6742.6	7186.7	8912.8	8678.7
47.5°	8021.3	7720.5	7536.7	7489.7	7381.4	7909.7	7673.4	7765.3	7961.1	9783.5	9694.9
50°	8698.4	8347.2	8107.7	8039.9	8407.4	9142.5	8661.2	8463.2	8880.0	10909.1	10863.1
52.5°	9782.4	9344.8	8945.6	8941.2	9472.8	9949.8	10288.9	9947.6	10100.7	12062.0	12193.3
55°	10728.6	10222.1	9863.3	10061.3	10818.3	11110.3	12262.2	11995.3	11866.2	13225.9	13601.1
57.5°	11081.9	10490.1	10256.0	10548.1	11663.8	13164.6	14382.1	13679.8	13554.0	14542.9	15329.4
60°	10306.4	9680.7	9694.9	10245.1	12177.9	14673.0	16700.0	16103.8	15366.6	16182.6	16950.5
62.5°	8096.8	7531.2	7899.9	8736.7	11747.0	16138.8	19806.5	20058.1	17437.2	17542.2	17849.6
65°	5503.2	5111.6	5444.1	6263.4	9527.5	16938.4	22765.4	23774.0	19323.0	18432.6	18237.9
67.5°	3621.8	3345.0	3409.6	3954.3	6558.8	14440.1	24744.2	25843.5	21047.0	19163.3	17553.2
70°	2804.7	2581.5	2553.1	2838.6	3889.8	10031.8	23571.6	25243.0	22097.1	18478.6	15299.8
72.5°	2200.8	2031.3	2046.6	2321.2	3012.5	5565.6	18240.1	21465.9	20515.4	15936.5	11754.6
75°	1716.3	1577.3	1655.0	1968.9	2786.1	3458.8	12584.9	16292.0	15861.0	11800.6	6704.3
77.5°	1245.9	1156.2	1266.7	1676.9	2618.7	2967.6	7834.2	11366.3	10160.9	6058.9	2300.4
80°	817.1	766.8	857.6	1367.3	2374.8	2856.1	4841.4	6964.6	5020.8	1702.0	870.7
82.5°	481.3	459.4	534.9	925.4	1908.8	2676.7	3229.1	3870.1	2054.3	719.8	462.7
85°	252.7	236.3	317.2	531.6	1315.9	2443.7	2542.1	2316.8	992.1	312.8	221.0
87.5°	84.2	82.0	134.5	205.6	497.7	1297.3	1356.4	1100.4	409.1	90.8	48.1
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°	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6	2442.6
2.5°	2969.8	2926.1	2674.5	2709.5	2742.3	2725.9	2716.1	2602.3	2591.4	2753.2	2740.1
5°	3742.1	3560.5	3346.1	3336.3	3195.2	3050.8	3079.2	3033.3	3046.4	3113.1	3119.7
7.5°	4150.1	3923.7	3719.1	3386.6	3104.4	2875.8	2911.9	2900.9	2871.4	3022.3	3062.8
10°	4142.4	3941.2	3710.4	3307.8	3117.5	2931.5	2708.4	2497.3	2434.9	2360.6	2367.1
12.5°	4415.9	4237.6	3734.4	3324.2	3066.1	2745.6	2327.7	2096.9	1876.0	1871.6	1815.8
15°	4501.2	4370.0	3785.9	3230.2	2706.2	2246.8	1814.7	1564.2	1404.5	1372.8	1325.8
17.5°	4716.7	4511.1	3629.4	2926.1	2288.4	1756.7	1364.0	1189.0	1175.9	1197.8	1173.7
20°	4730.9	4397.3	3347.2	2476.5	1838.8	1331.2	1112.5	1024.9	1072.0	1125.6	1123.4
22.5°	4718.9	4254.0	3103.3	2093.6	1381.5	1069.8	974.6	954.9	998.7	1078.5	1088.4
25°	4596.4	4207.0	2798.1	1719.5	1121.2	916.7	890.4	902.4	957.1	1051.2	1051.2
27.5°	4724.4	4015.6	2415.2	1399.0	942.9	816.0	834.6	865.2	905.7	1012.9	1032.6
30°	4682.8	4079.0	2106.8	1126.7	831.3	746.0	787.6	818.2	864.1	975.7	985.6
32.5°	4794.4	3909.5	1847.5	947.3	758.0	718.7	728.5	770.1	830.2	917.7	935.3
35°	4965.0	3971.8	1550.0	852.1	721.9	686.9	705.5	738.4	798.5	883.8	898.1
37.5°	5509.8	3968.5	1344.4	799.6	715.4	680.4	689.1	712.1	782.1	859.8	892.6
40°	5859.8	4196.0	1157.3	787.6	707.7	677.1	669.4	694.6	750.4	842.3	865.2
42.5°	6517.2	4335.0	1076.4	783.2	706.6	658.5	650.8	680.4	735.1	820.4	855.4
45°	7211.8	4533.0	1011.8	781.0	703.4	655.2	632.3	669.4	715.4	797.4	837.9
47.5°	8028.9	4951.9	975.7	773.4	696.8	659.6	625.7	644.3	695.7	777.7	818.2
50°	9098.7	5506.5	983.4	762.4	706.6	660.7	615.8	624.6	671.6	751.5	793.0
52.5°	10399.3	6365.2	1032.6	766.8	713.2	655.2	611.5	607.1	647.6	717.6	759.1
55°	11966.8	7583.7	1180.3	787.6	713.2	654.1	604.9	585.2	615.8	672.7	713.2
57.5°	13858.1	8994.8	1469.1	797.4	707.7	647.6	590.7	555.7	574.3	621.3	659.6
60°	15482.5	10133.5	1766.6	804.0	718.7	632.3	562.2	518.5	530.5	566.6	600.5
62.5°	16310.6	10452.9	1856.3	798.5	748.2	622.4	528.3	479.1	480.2	510.8	541.5
65°	16465.9	10027.4	1496.4	793.0	786.5	621.3	504.3	445.2	437.5	459.4	485.7
67.5°	15358.9	8703.8	1079.6	781.0	790.9	614.7	487.9	417.9	398.2	413.5	435.4
70°	13041.0	7009.5	906.8	757.0	738.4	581.9	459.4	389.4	363.2	374.1	390.5
72.5°	9722.2	5186.0	790.9	705.5	643.2	497.7	415.7	357.7	330.3	338.0	350.0
75°	5401.5	2766.4	661.8	613.7	525.1	402.5	354.4	317.2	293.2	296.4	309.6
77.5°	1793.9	1020.6	485.7	486.8	397.1	310.7	292.1	271.3	252.7	253.8	264.7
80°	812.7	564.4	347.8	350.0	276.7	225.3	224.2	217.7	205.6	202.4	210.0
82.5°	471.5	342.4	238.5	227.5	178.3	146.6	163.0	159.7	156.4	144.4	146.6
85°	231.9	183.8	124.7	118.1	98.4	73.3	87.5	90.8	87.5	74.4	73.3
87.5°	56.9	60.2	30.6	28.4	16.4	7.7	13.1	13.1	16.4	10.9	5.5
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)