

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: P367532

Luminaire Tested: **MSA-SA2D-727-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367532
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2D-727-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10987 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

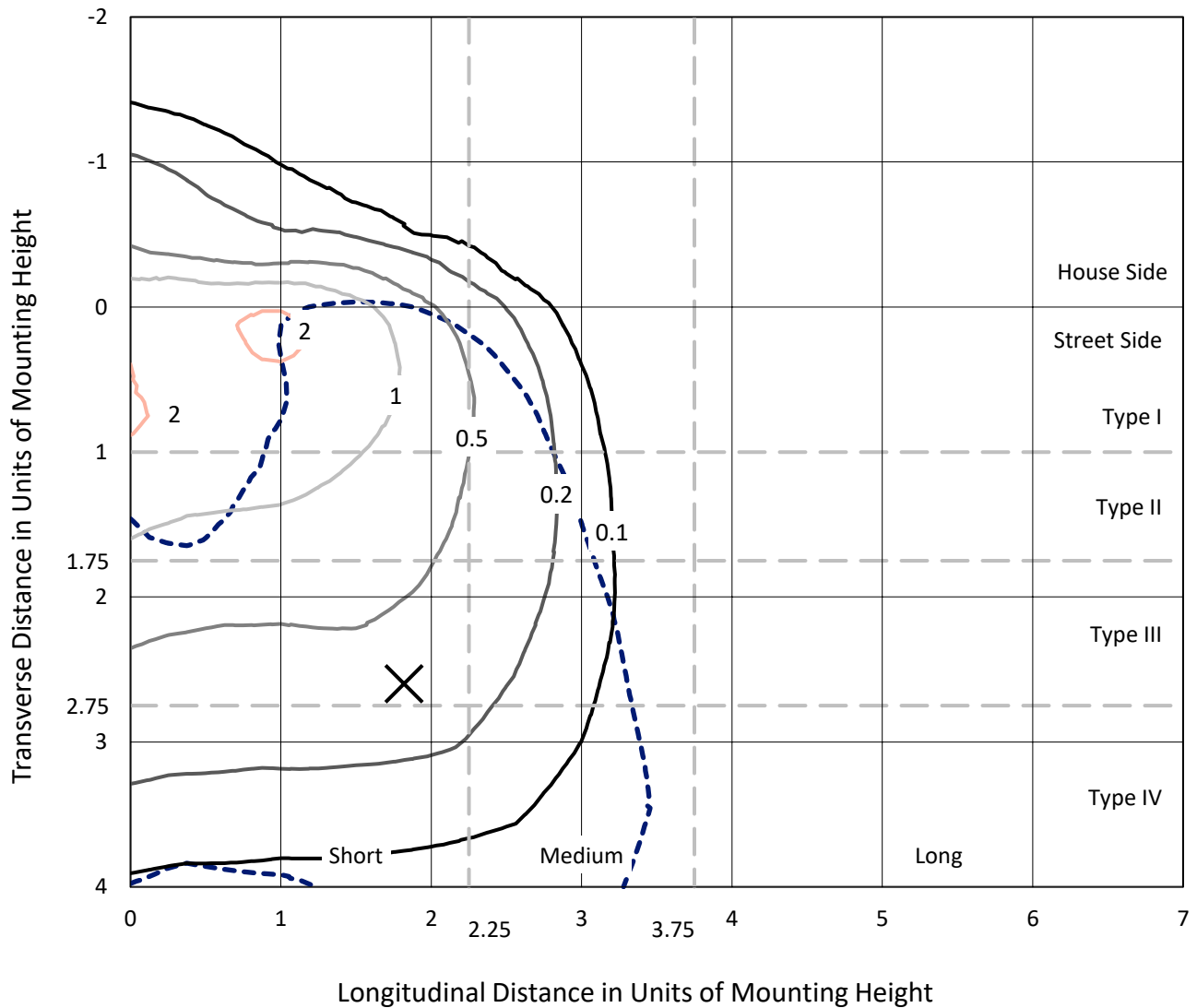
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

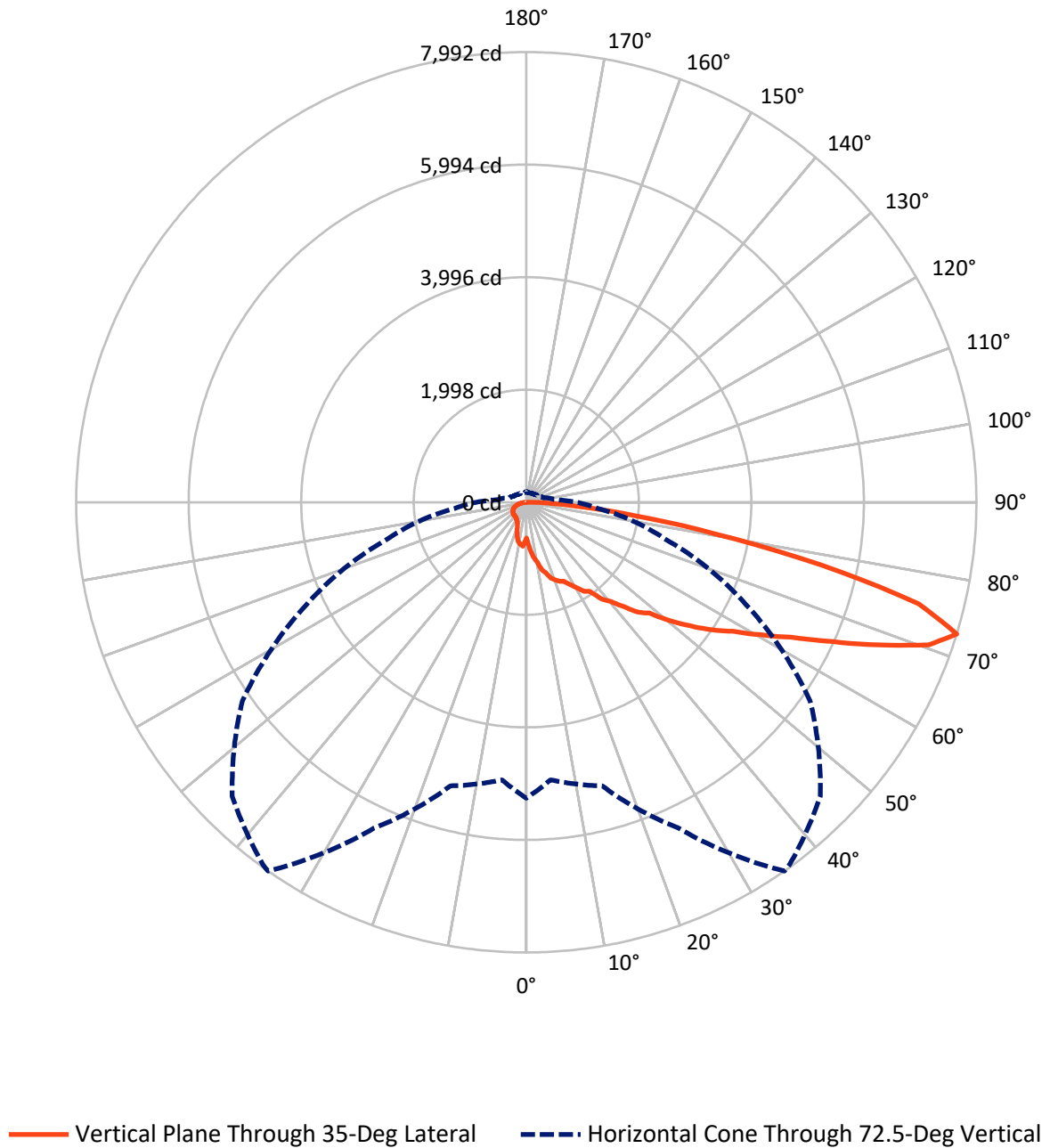
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.2 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1474.4	0.0	1474.4
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	9512.6	0.0	9512.6
	% Fixture	86.6	0.0	86.6
Total	Lumens	10987.0	0.0	10987.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.4	0.8
10°-20°	297.3	2.7
20°-30°	516.5	4.7
30°-40°	863.2	7.9
40°-50°	1498.3	13.6
50°-60°	2265.0	20.6
60°-70°	2934.3	26.7
70°-80°	2165.2	19.7
80°-90°	362.9	3.3
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°	10987.0	100.0
0°-180°	10987.0	100.0

Coefficient of Utilization



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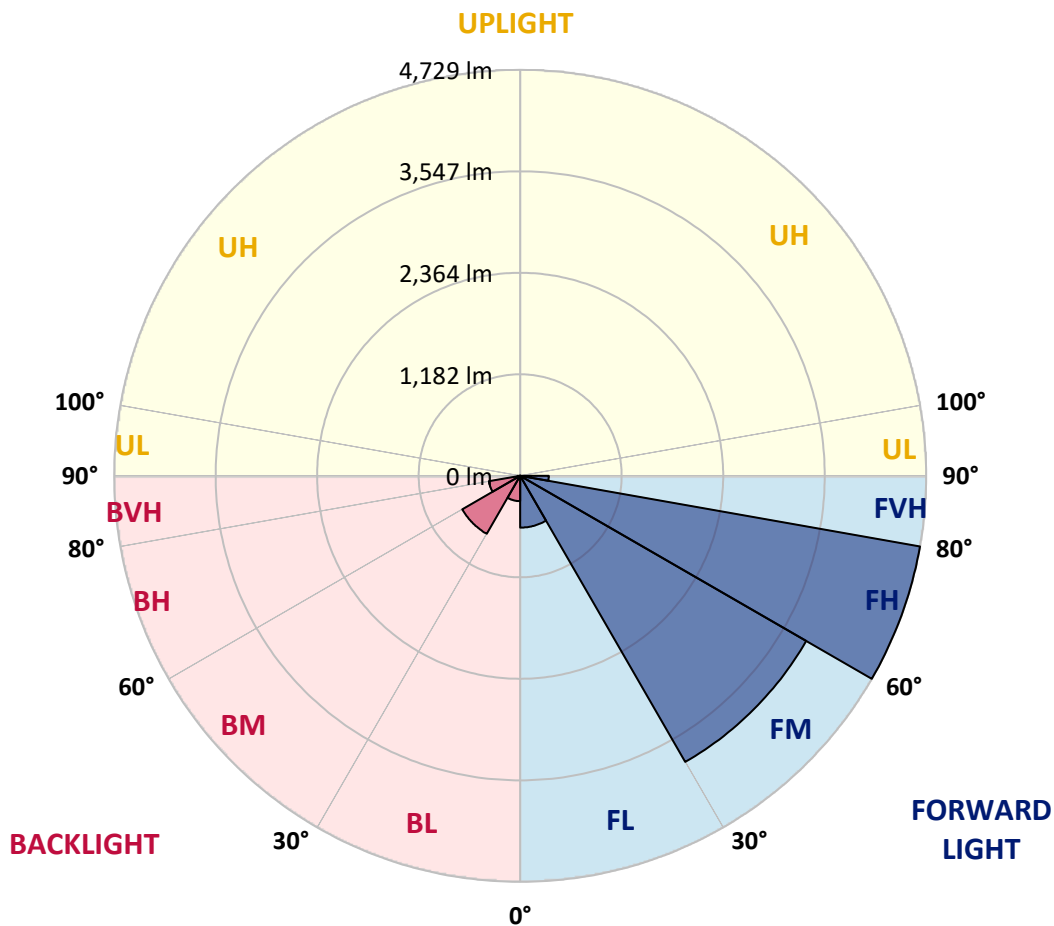
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	603.4	5.5			
FM (30°-60°)	3847.3	35.0			
FH (60°-80°)	4728.7	43.0			G2/5000
FVH (80°-90°)	333.2	3.0			G3/500
BL (0°-30°)	294.7	2.7	B1/500		
BM (30°-60°)	779.3	7.1	B1/1000		
BH (60°-80°)	370.7	3.4	B1/500		G1/500
BVH (80°-90°)	29.7	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	634.9	634.9	634.9	634.9	634.9	634.9	634.9	634.9	634.9	634.9	634.9
2.5°	792.0	754.1	721.2	719.8	750.3	762.0	757.3	747.0	734.8	709.0	765.3
5°	992.3	937.9	927.6	915.4	887.7	895.2	850.2	884.4	895.2	920.1	957.6
7.5°	1110.4	1078.6	1053.7	1043.4	995.6	989.9	956.6	1005.4	1026.0	1022.8	1078.6
10°	1156.9	1127.8	1129.7	1095.9	1080.4	1087.0	1090.8	1091.7	1104.4	1114.7	1086.5
12.5°	1180.8	1192.0	1233.3	1210.3	1230.0	1238.0	1277.4	1237.1	1238.5	1185.5	1214.6
15°	1301.3	1329.4	1305.5	1304.6	1298.5	1311.6	1345.4	1318.2	1339.3	1322.4	1284.9
17.5°	1446.7	1455.1	1409.2	1390.4	1414.8	1410.6	1402.1	1406.3	1353.8	1451.4	1405.4
20°	1491.2	1524.5	1464.0	1390.4	1471.1	1481.8	1480.0	1461.7	1371.6	1512.3	1467.8
22.5°	1620.7	1575.6	1527.8	1480.9	1522.2	1528.3	1518.0	1474.3	1444.3	1497.8	1533.0
25°	1679.3	1668.5	1607.5	1601.9	1556.4	1534.8	1552.7	1540.0	1510.5	1605.6	1566.7
27.5°	1813.4	1800.7	1660.5	1718.2	1652.1	1646.4	1552.2	1594.4	1623.9	1616.9	1675.1
30°	1965.3	1979.9	1774.9	1832.6	1756.2	1745.9	1651.1	1704.6	1724.8	1731.3	1804.0
32.5°	2134.1	2174.0	1970.5	1923.1	1882.3	1889.4	1809.2	1711.6	1789.9	1943.3	1974.7
35°	2317.0	2333.4	2120.1	2048.8	1942.3	1934.8	1936.2	1948.4	2027.7	2202.6	2227.0
37.5°	2655.1	2579.2	2392.1	2211.5	2175.9	2106.0	2153.4	2190.9	2270.1	2538.4	2640.6
40°	2863.3	2807.1	2522.0	2417.4	2318.9	2325.5	2414.1	2413.6	2600.7	2877.4	3033.6
42.5°	3056.1	2994.6	2725.9	2620.9	2527.6	2550.6	2575.9	2620.4	2979.2	3425.1	3496.4
45°	3211.3	3076.7	2883.5	2860.1	2783.2	2752.7	2860.1	2931.3	3431.7	3868.3	3909.5
47.5°	3316.8	3206.1	3017.2	2996.5	2939.8	3014.3	3307.4	3353.4	3782.5	4313.3	4310.0
50°	3477.2	3325.7	3155.0	3144.2	3304.1	3344.0	3701.3	3696.6	4123.9	4682.8	4605.5
52.5°	3661.9	3471.1	3285.9	3401.7	3645.5	3665.2	3975.2	4101.3	4496.7	5039.2	4837.1
55°	3874.4	3661.0	3481.9	3636.6	3999.6	3941.4	4255.2	4563.2	4963.3	5414.8	5004.5
57.5°	4137.4	3878.6	3733.7	3969.1	4322.7	4374.3	4656.1	5043.9	5338.9	5648.4	5126.4
60°	4415.1	4111.2	3978.5	4202.6	4775.2	4834.3	5110.0	5443.4	5760.0	5868.3	5103.5
62.5°	4680.0	4351.3	4231.2	4507.9	5277.0	5423.3	5626.8	5839.2	6110.3	5921.8	4825.4
65°	4975.0	4645.8	4570.3	4985.3	5957.4	6102.8	6368.7	6304.9	6230.3	5732.3	4365.4
67.5°	5287.3	4952.9	4967.0	5539.1	6759.8	6784.6	7193.1	6769.1	6089.2	5230.5	3593.0
70°	5455.2	5112.8	5257.7	6129.5	7576.2	7540.5	7624.0	6893.9	5513.8	4134.6	2476.5
72.5°	5251.6	4946.4	5211.8	6378.0	7991.7	7953.2	7382.0	6153.4	4311.0	2571.2	1284.0
75°	4446.5	4152.0	4558.1	5685.4	7194.5	7230.1	6282.4	4575.9	2468.0	1034.0	533.2
77.5°	3021.4	2869.4	3217.4	4237.8	5344.0	5467.4	4661.3	2675.8	1036.4	428.1	322.6
80°	1596.7	1524.5	1781.5	2441.3	3383.9	3475.8	2740.9	1332.7	530.8	277.1	230.2
82.5°	867.5	837.1	974.9	1255.3	1922.7	2002.8	1421.4	885.4	357.8	173.5	140.7
85°	582.9	571.2	662.6	674.3	909.3	935.5	744.7	681.8	214.8	84.9	92.8
87.5°	291.7	280.0	348.9	308.1	347.0	347.5	341.4	435.2	54.4	28.1	16.9
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°	634.9	634.9	634.9	634.9	634.9	634.9	634.9	634.9	634.9	634.9	634.9
2.5°	766.2	749.8	693.1	692.6	701.1	695.4	699.7	676.7	666.8	711.8	709.5
5°	952.4	903.2	855.8	839.4	820.2	778.4	780.8	781.3	774.2	800.9	802.8
7.5°	1061.7	1002.6	959.0	871.8	803.3	749.8	756.9	764.8	756.9	792.5	805.6
10°	1077.6	1030.7	978.7	881.6	836.1	787.8	739.0	695.9	690.7	674.3	679.5
12.5°	1172.3	1133.4	1024.6	918.2	865.2	791.1	702.0	652.8	611.5	618.5	605.4
15°	1250.2	1222.5	1092.2	952.9	826.3	734.4	639.6	572.1	535.1	530.8	517.7
17.5°	1355.7	1316.3	1098.3	929.0	776.1	665.9	559.0	482.5	466.6	460.0	453.5
20°	1406.3	1335.5	1076.2	853.9	717.5	584.3	479.3	413.6	408.9	420.6	418.3
22.5°	1450.4	1351.5	1056.5	808.5	626.0	501.8	424.9	381.7	376.6	391.6	394.4
25°	1476.2	1397.0	1034.9	762.0	569.3	440.3	384.1	359.7	360.6	380.3	378.0
27.5°	1592.5	1412.9	980.6	707.2	504.1	394.8	364.4	351.7	346.5	373.7	376.1
30°	1665.7	1517.0	968.4	649.0	455.8	361.6	346.5	341.4	340.4	373.3	375.6
32.5°	1801.7	1551.7	974.0	585.7	412.2	351.2	333.4	332.9	342.3	373.7	377.5
35°	1990.2	1698.0	946.8	549.6	388.3	335.3	323.1	326.9	342.8	377.0	382.2
37.5°	2357.8	1835.9	955.2	515.8	380.3	330.1	320.3	322.6	348.4	385.5	399.5
40°	2649.0	2085.8	942.1	499.0	369.5	329.2	314.2	323.6	348.0	390.2	402.8
42.5°	3071.1	2285.1	943.5	482.1	369.1	325.4	313.3	324.5	347.0	385.9	403.3
45°	3433.1	2463.8	963.7	472.2	364.4	331.5	311.8	325.9	340.9	370.9	390.2
47.5°	3729.9	2663.1	984.3	462.8	362.5	337.2	310.4	316.1	330.6	354.0	371.4
50°	3971.9	2803.3	1010.6	461.0	362.5	334.4	306.7	306.2	318.4	337.2	353.6
52.5°	4160.4	2902.3	1028.4	463.3	362.5	323.6	302.0	298.2	305.7	319.3	335.8
55°	4296.9	2932.7	1013.8	469.4	362.0	313.7	293.6	290.3	294.0	303.4	318.9
57.5°	4351.8	2852.6	927.1	458.6	362.0	306.7	283.2	279.5	283.2	290.3	305.7
60°	4214.4	2594.6	801.9	431.0	355.0	297.3	271.5	269.2	274.8	280.9	295.9
62.5°	3869.7	2251.8	668.2	398.1	340.4	289.3	260.3	260.7	269.6	278.1	293.1
65°	3334.2	1837.3	557.1	364.8	322.2	276.7	248.5	251.8	264.5	275.7	290.7
67.5°	2623.7	1361.3	468.9	332.5	296.4	256.0	235.4	236.3	245.3	256.0	270.6
70°	1753.8	866.1	385.5	294.5	262.6	229.3	215.2	212.0	209.6	219.0	231.7
72.5°	889.6	511.6	316.5	251.8	226.0	200.2	189.5	181.0	174.4	180.1	189.9
75°	466.1	357.8	255.6	209.1	186.6	170.2	162.3	151.0	146.3	149.6	156.6
77.5°	329.7	280.0	206.8	165.5	151.9	135.1	136.5	124.7	121.0	122.9	130.4
80°	253.2	221.8	159.0	125.2	117.2	100.8	105.5	98.5	93.8	92.8	98.5
82.5°	172.6	166.9	113.0	87.7	82.1	70.3	76.9	74.1	68.0	64.2	67.1
85°	116.3	110.7	68.9	50.6	48.3	36.6	46.9	45.0	39.9	34.2	34.7
87.5°	20.2	37.0	19.7	12.7	11.7	4.2	10.8	10.3	9.4	4.7	3.8
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)