

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: P367620

Luminaire Tested: **MSA-SA2D-760-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367620
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-760-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: 13138 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

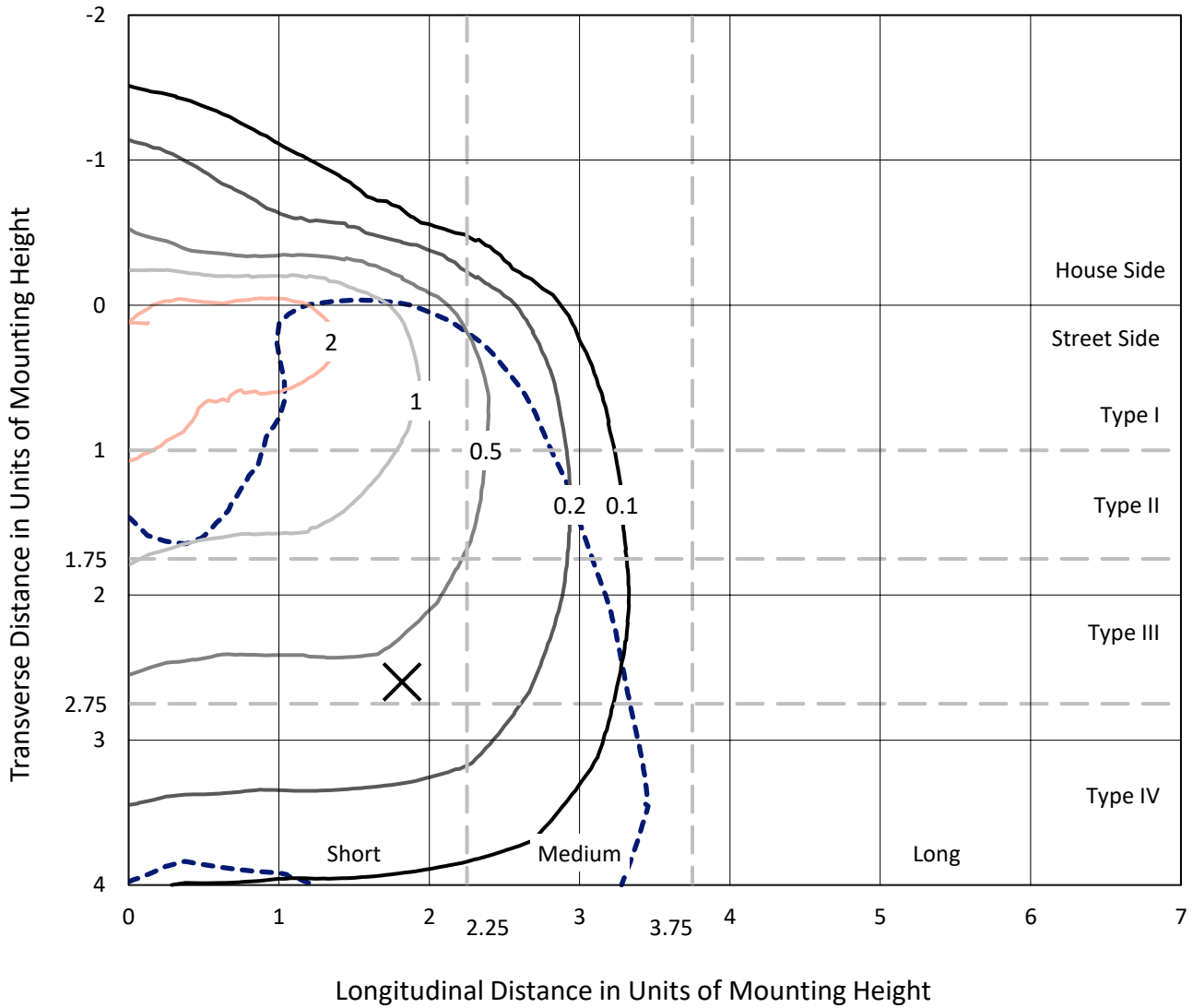
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P367620
 CATALOG NUMBER: MSA-SA2D-760-U-SL4

Iso-Footcandle Lines of Horizontal Illumination

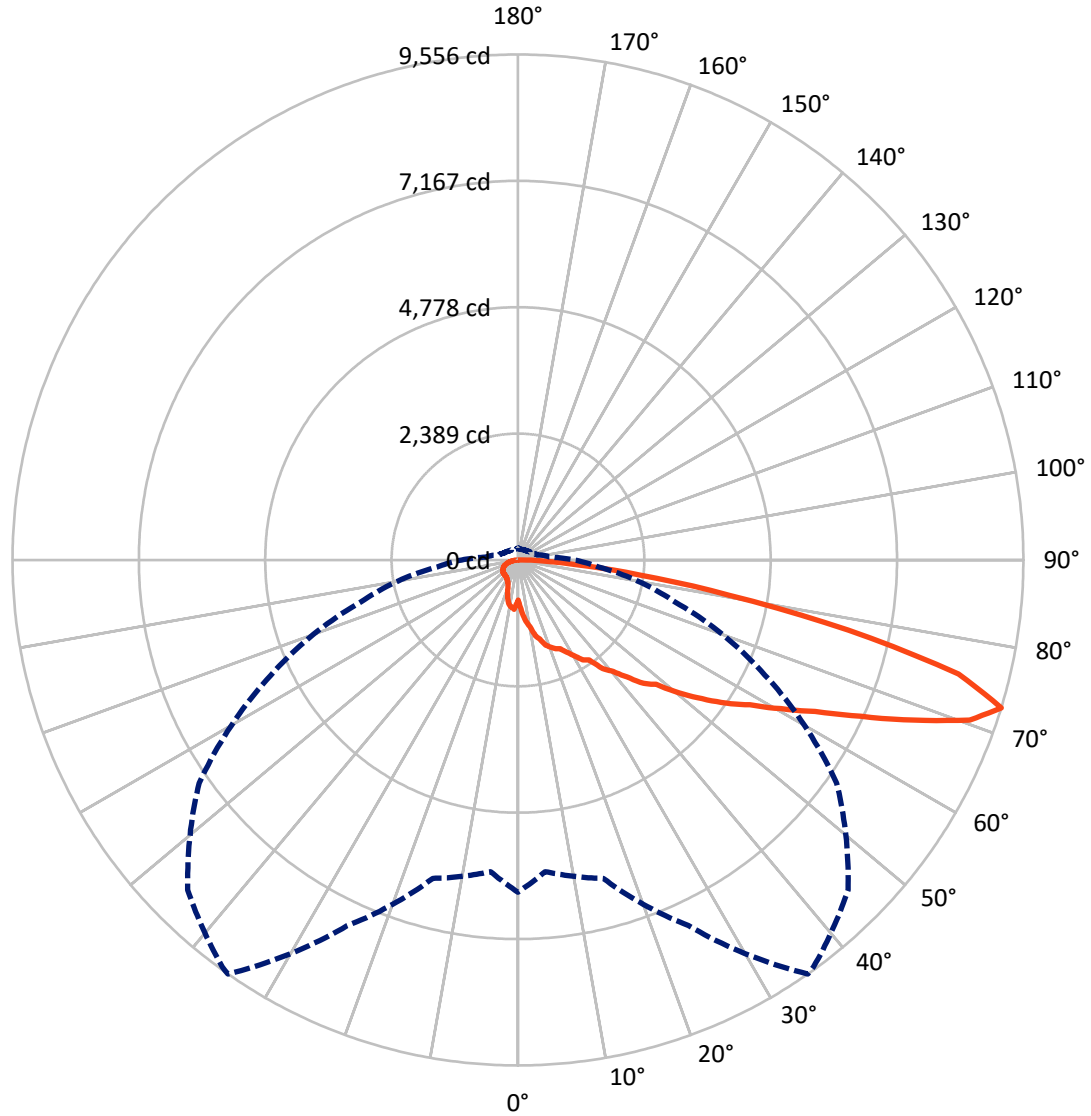
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.6 fc
 Type IV - Short - N/A

REPORT NUMBER: P367620
CATALOG NUMBER: MSA-SA2D-760-U-SL4

Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

REPORT NUMBER: P367620

CATALOG NUMBER: MSA-SA2D-760-U-SL4

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1763.1	0.0	1763.1
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	11374.9	0.0	11374.9
	% Fixture	86.6	0.0	86.6
Total	Lumens	13138.0	0.0	13138.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.9	0.8
10°-20°	355.4	2.7
20°-30°	617.6	4.7
30°-40°	1032.2	7.9
40°-50°	1791.6	13.6
50°-60°	2708.4	20.6
60°-70°	3508.7	26.7
70°-80°	2589.1	19.7
80°-90°	433.9	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°	13138.0	100.0
0°-180°	13138.0	100.0

Coefficient of Utilization



REPORT NUMBER: P367620

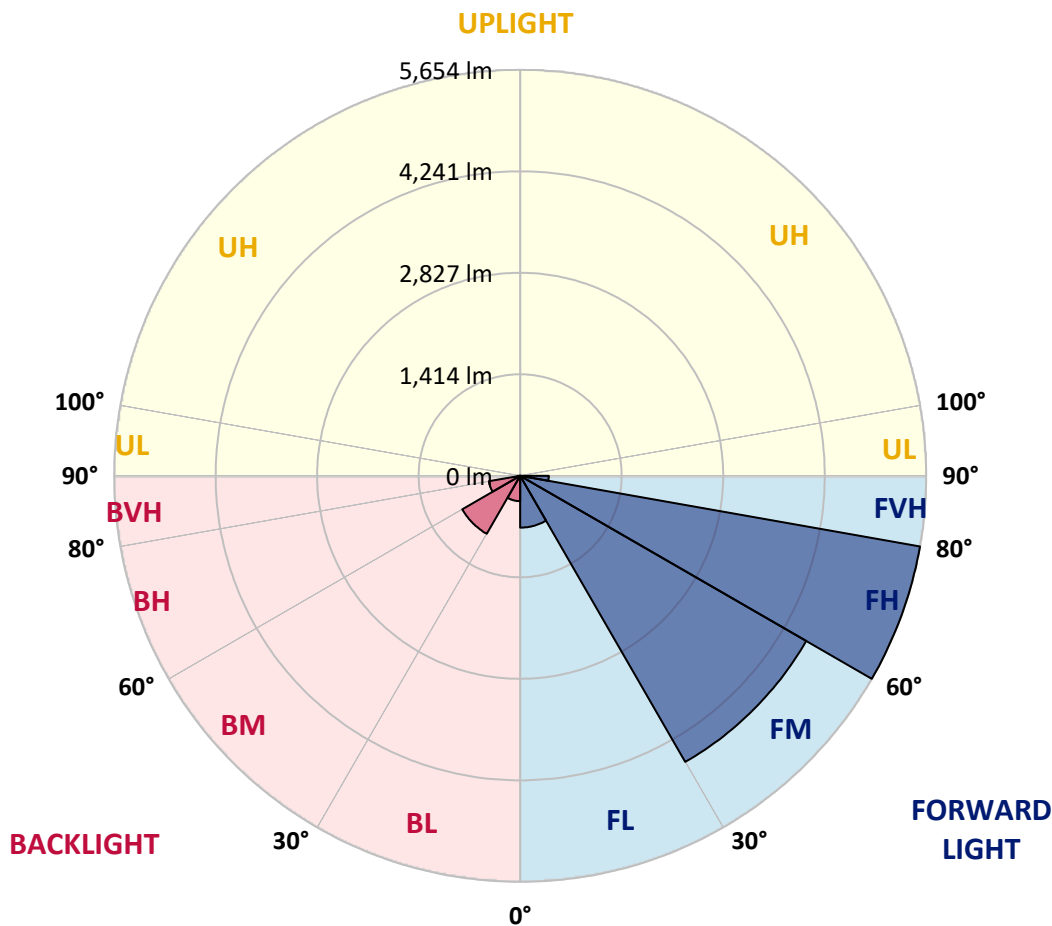
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	721.6	5.5			
FM (30°-60°)	4600.5	35.0			
FH (60°-80°)	5654.5	43.0			G3/7500
FVH (80°-90°)	398.4	3.0			G3/500
BL (0°-30°)	352.4	2.7	B1/500		
BM (30°-60°)	931.8	7.1	B1/1000		
BH (60°-80°)	443.3	3.4	B1/500		G1/500
BVH (80°-90°)	35.5	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





REPORT NUMBER: P367620

CATALOG NUMBER: MSA-SA2D-760-U-SL4

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	759.3	759.3	759.3	759.3	759.3	759.3	759.3	759.3	759.3	759.3	759.3
2.5°	947.1	901.7	862.4	860.7	897.2	911.2	905.6	893.3	878.7	847.8	915.1
5°	1186.5	1121.5	1109.2	1094.6	1061.5	1070.5	1016.6	1057.6	1070.5	1100.2	1145.0
7.5°	1327.8	1289.7	1260.0	1247.7	1190.5	1183.7	1143.9	1202.2	1226.9	1223.0	1289.7
10°	1383.4	1348.6	1350.8	1310.5	1292.0	1299.8	1304.3	1305.4	1320.6	1332.9	1299.2
12.5°	1412.0	1425.4	1474.8	1447.3	1470.8	1480.4	1527.5	1479.2	1480.9	1417.6	1452.3
15°	1556.1	1589.7	1561.1	1560.0	1552.7	1568.4	1608.8	1576.3	1601.5	1581.3	1536.4
17.5°	1729.9	1740.0	1685.0	1662.6	1691.8	1686.7	1676.6	1681.7	1618.9	1735.5	1680.6
20°	1783.2	1823.0	1750.7	1662.6	1759.1	1772.0	1769.7	1747.8	1640.2	1808.4	1755.1
22.5°	1937.9	1884.1	1826.9	1770.8	1820.2	1827.5	1815.1	1763.0	1727.1	1791.0	1833.1
25°	2008.0	1995.1	1922.2	1915.5	1861.1	1835.3	1856.6	1841.5	1806.2	1920.0	1873.5
27.5°	2168.4	2153.3	1985.6	2054.6	1975.5	1968.8	1856.1	1906.5	1941.9	1933.5	2003.0
30°	2350.1	2367.5	2122.4	2191.4	2100.0	2087.7	1974.4	2038.3	2062.4	2070.3	2157.2
32.5°	2552.0	2599.6	2356.3	2299.6	2250.8	2259.2	2163.4	2046.7	2140.4	2323.7	2361.3
35°	2770.6	2790.3	2535.1	2449.9	2322.6	2313.6	2315.3	2329.9	2424.7	2633.8	2663.0
37.5°	3174.9	3084.1	2860.4	2644.5	2601.9	2518.3	2574.9	2619.8	2714.6	3035.3	3157.6
40°	3423.9	3356.6	3015.7	2890.6	2772.9	2780.7	2886.7	2886.2	3109.9	3440.7	3627.5
42.5°	3654.4	3580.9	3259.6	3134.0	3022.4	3049.9	3080.2	3133.5	3562.4	4095.7	4180.9
45°	3840.0	3679.1	3448.0	3420.0	3328.0	3291.6	3420.0	3505.2	4103.5	4625.6	4674.9
47.5°	3966.2	3833.8	3607.8	3583.2	3515.3	3604.5	3954.9	4009.9	4523.0	5157.7	5153.8
50°	4157.9	3976.8	3772.7	3759.8	3951.0	3998.7	4426.0	4420.4	4931.2	5599.6	5507.1
52.5°	4378.9	4150.6	3929.2	4067.7	4359.2	4382.8	4753.4	4904.3	5377.0	6025.8	5784.1
55°	4632.9	4377.7	4163.5	4348.6	4782.6	4713.1	5088.2	5456.6	5934.9	6474.9	5984.3
57.5°	4947.5	4637.9	4464.7	4746.2	5169.0	5230.6	5567.7	6031.4	6384.1	6754.2	6130.1
60°	5279.4	4916.1	4757.4	5025.4	5710.1	5780.7	6110.5	6509.1	6887.6	7017.2	6102.6
62.5°	5596.2	5203.2	5059.6	5390.5	6310.1	6485.0	6728.4	6982.4	7306.5	7081.1	5770.1
65°	5949.0	5555.3	5465.0	5961.3	7123.7	7297.6	7615.5	7539.2	7450.1	6854.6	5220.0
67.5°	6322.4	5922.6	5939.4	6623.5	8083.2	8112.9	8601.3	8094.4	7281.3	6254.6	4296.4
70°	6523.2	6113.8	6287.1	7329.5	9059.4	9016.8	9116.6	8243.5	6593.3	4944.1	2961.3
72.5°	6279.8	5914.8	6232.1	7626.7	9556.2	9510.3	8827.3	7358.1	5154.9	3074.6	1535.3
75°	5317.0	4964.8	5450.5	6798.5	8603.0	8645.6	7512.3	5471.8	2951.2	1236.4	637.6
77.5°	3612.9	3431.2	3847.3	5067.5	6390.3	6537.7	5573.8	3199.6	1239.2	512.0	385.8
80°	1909.3	1823.0	2130.3	2919.2	4046.3	4156.3	3277.6	1593.6	634.8	331.4	275.3
82.5°	1037.4	1000.9	1165.8	1501.1	2299.1	2394.9	1699.6	1058.7	427.8	207.5	168.2
85°	697.0	683.0	792.3	806.4	1087.3	1118.7	890.5	815.3	256.8	101.5	111.0
87.5°	348.8	334.8	417.2	368.4	415.0	415.5	408.2	520.4	65.0	33.6	20.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P367620

CATALOG NUMBER: MSA-SA2D-760-U-SL4

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	759.3	759.3	759.3	759.3	759.3	759.3	759.3	759.3	759.3	759.3	759.3
2.5°	916.3	896.6	828.8	828.2	838.3	831.6	836.6	809.2	797.4	851.2	848.4
5°	1138.9	1080.0	1023.4	1003.7	980.7	930.8	933.6	934.2	925.8	957.8	960.0
7.5°	1269.5	1198.9	1146.7	1042.4	960.6	896.6	905.0	914.6	905.0	947.7	963.4
10°	1288.6	1232.5	1170.3	1054.2	999.8	942.1	883.7	832.1	826.0	806.4	812.5
12.5°	1401.9	1355.3	1225.2	1097.9	1034.6	946.0	839.4	780.6	731.2	739.6	723.9
15°	1495.0	1461.9	1306.0	1139.4	988.0	878.1	764.9	684.1	639.8	634.8	619.1
17.5°	1621.1	1574.0	1313.3	1110.8	928.0	796.3	668.4	577.0	557.9	550.1	542.2
20°	1681.7	1597.0	1286.9	1021.1	857.9	698.7	573.1	494.6	489.0	503.0	500.2
22.5°	1734.4	1616.1	1263.4	966.7	748.6	600.0	508.0	456.4	450.3	468.2	471.6
25°	1765.2	1670.5	1237.6	911.2	680.7	526.5	459.3	430.1	431.2	454.8	452.0
27.5°	1904.3	1689.5	1172.5	845.6	602.8	472.1	435.7	420.6	414.4	446.9	449.7
30°	1991.8	1814.0	1157.9	776.1	545.0	432.3	414.4	408.2	407.1	446.4	449.2
32.5°	2154.4	1855.5	1164.7	700.4	492.9	420.0	398.7	398.1	409.3	446.9	451.4
35°	2379.8	2030.5	1132.1	657.2	464.3	400.9	386.4	390.8	409.9	450.8	457.0
37.5°	2819.4	2195.3	1142.2	616.8	454.8	394.8	383.0	385.8	416.6	460.9	477.8
40°	3167.7	2494.2	1126.5	596.6	441.9	393.6	375.7	386.9	416.1	466.5	481.7
42.5°	3672.3	2732.5	1128.2	576.4	441.3	389.2	374.6	388.0	415.0	461.5	482.2
45°	4105.2	2946.2	1152.3	564.7	435.7	396.4	372.9	389.7	407.7	443.6	466.5
47.5°	4460.2	3184.5	1177.0	553.5	433.5	403.2	371.2	377.9	395.3	423.4	444.1
50°	4749.5	3352.1	1208.4	551.2	433.5	399.8	366.7	366.2	380.7	403.2	422.8
52.5°	4974.9	3470.5	1229.7	554.0	433.5	386.9	361.1	356.6	365.6	381.9	401.5
55°	5138.1	3506.9	1212.3	561.3	432.9	375.1	351.0	347.1	351.6	362.8	381.3
57.5°	5203.7	3411.0	1108.6	548.4	432.9	366.7	338.7	334.2	338.7	347.1	365.6
60°	5039.4	3102.6	958.9	515.3	424.5	355.5	324.7	321.9	328.6	335.9	353.8
62.5°	4627.3	2692.7	799.1	476.1	407.1	346.0	311.2	311.8	322.4	332.5	350.5
65°	3986.9	2197.0	666.2	436.3	385.2	330.8	297.2	301.1	316.3	329.7	347.7
67.5°	3137.4	1627.8	560.7	397.6	354.4	306.2	281.5	282.6	293.3	306.2	323.6
70°	2097.2	1035.7	460.9	352.1	314.0	274.2	257.4	253.5	250.7	261.9	277.0
72.5°	1063.7	611.8	378.5	301.1	270.3	239.4	226.5	216.4	208.6	215.3	227.1
75°	557.4	427.8	305.6	250.1	223.2	203.6	194.0	180.6	175.0	178.9	187.3
77.5°	394.2	334.8	247.3	197.9	181.7	161.5	163.2	149.2	144.7	146.9	155.9
80°	302.8	265.2	190.1	149.7	140.2	120.6	126.2	117.8	112.1	111.0	117.8
82.5°	206.4	199.6	135.1	104.9	98.1	84.1	92.0	88.6	81.3	76.8	80.2
85°	139.1	132.3	82.4	60.6	57.8	43.7	56.1	53.8	47.7	40.9	41.5
87.5°	24.1	44.3	23.6	15.1	14.0	5.0	12.9	12.3	11.2	5.6	4.5
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)