

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: P368190

Luminaire Tested: **MSA-SA4A-727-U-SL3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368190
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-SA4A-727-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: 12722 lumens
Efficiency: N/A
Efficacy: 98.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G3

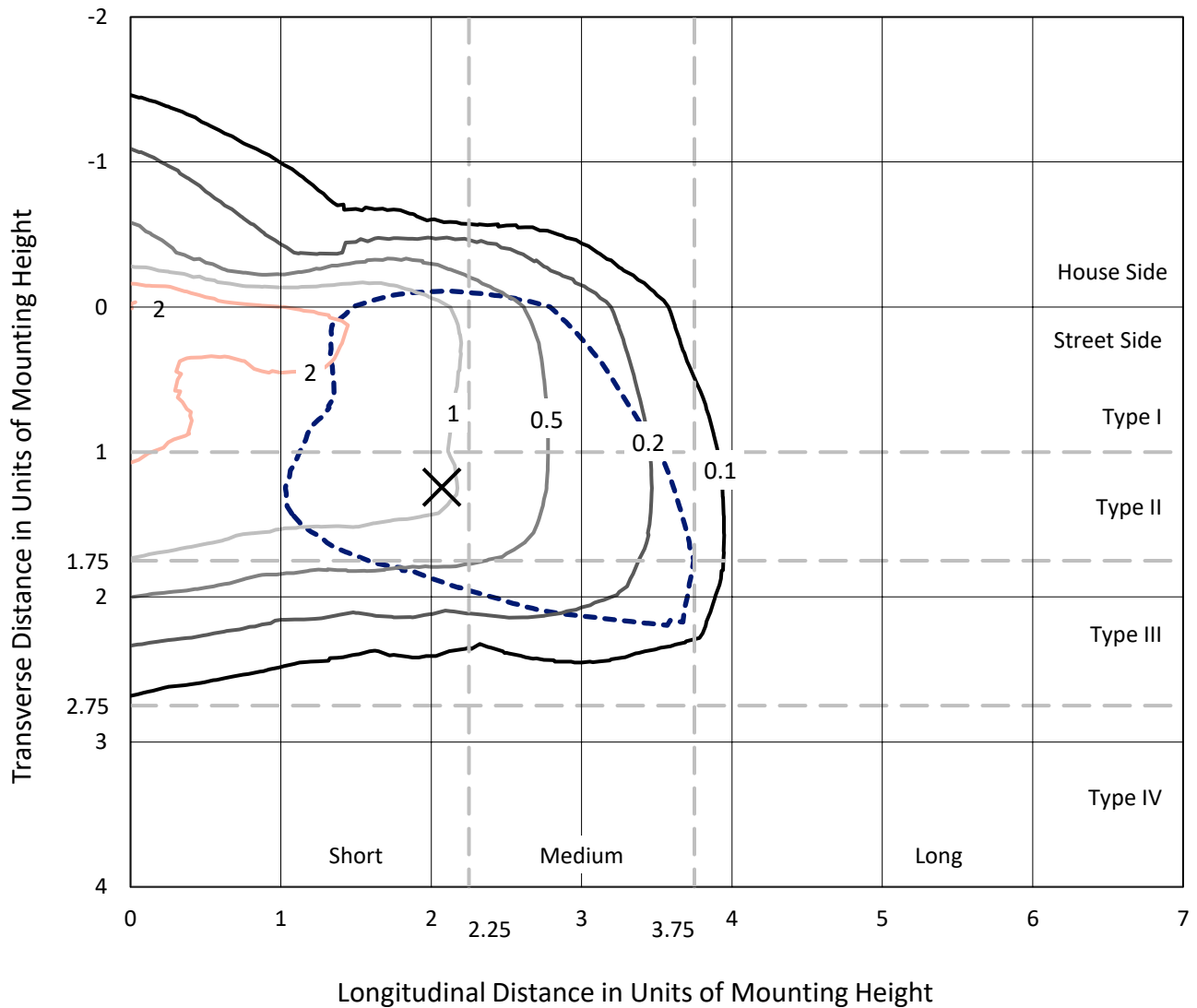
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

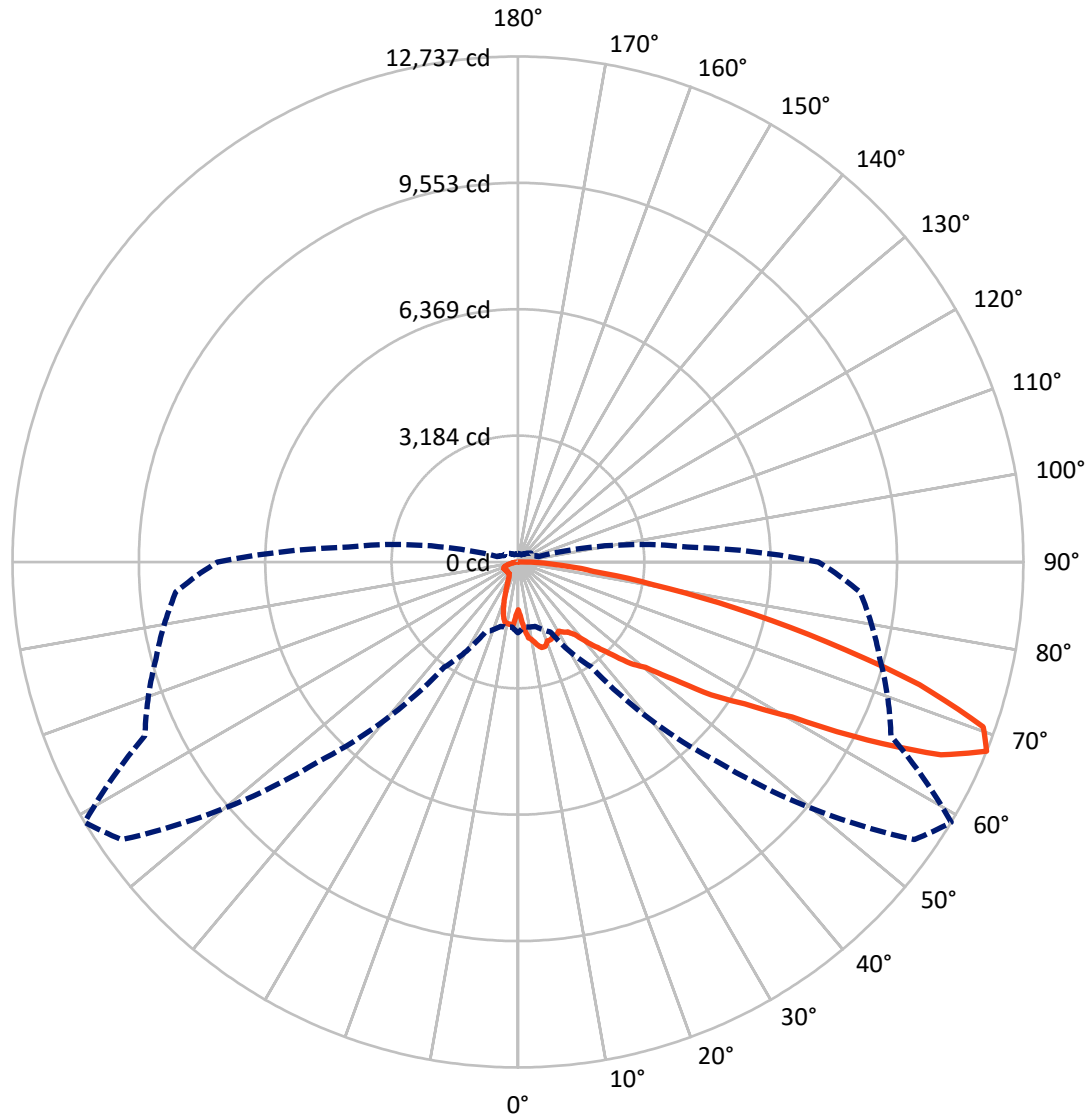
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.3 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	1914.9	0.0	1914.9
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	10807.1	0.0	10807.1
	% Fixture	84.9	0.0	84.9
Total	Lumens	12722.0	0.0	12722.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.2	1.2
10°-20°	465.3	3.7
20°-30°	664.4	5.2
30°-40°	979.1	7.7
40°-50°	1654.2	13.0
50°-60°	2878.7	22.6
60°-70°	3668.3	28.8
70°-80°	1942.4	15.3
80°-90°	312.5	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°	12722.0	100.0
0°-180°	12722.0	100.0

Coefficient of Utilization



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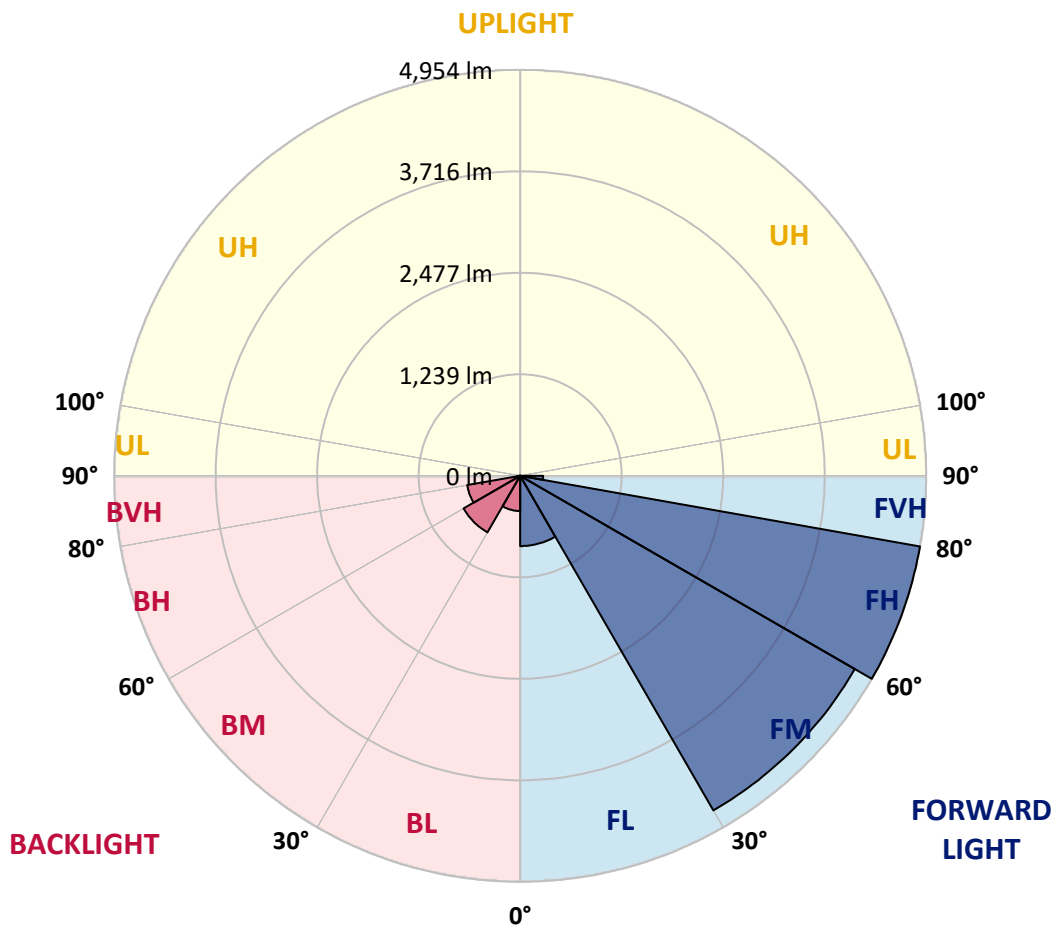
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	857.5	6.7			
FM (30°-60°)	4714.6	37.1			
FH (60°-80°)	4954.3	38.9			G2/5000
FVH (80°-90°)	280.7	2.2			G3/500
BL (0°-30°)	429.4	3.4	B1/500		
BM (30°-60°)	797.4	6.3	B1/1000		
BH (60°-80°)	656.3	5.2	B2/1000		G2/1000
BVH (80°-90°)	31.8	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°	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8
2.5°	1503.0	1433.0	1358.6	1379.6	1422.2	1441.6	1420.6	1400.1	1373.7	1342.4	1449.1
5°	1822.7	1718.7	1703.6	1703.1	1688.0	1627.6	1705.2	1699.8	1731.1	1763.4	1846.5
7.5°	1913.8	1875.0	1833.0	1852.9	1776.9	1773.7	1894.4	1928.9	1989.3	1969.4	2081.0
10°	1866.9	1823.3	1845.4	1837.3	1844.3	1924.1	1997.9	2000.1	2064.8	2128.4	2056.7
12.5°	1784.5	1787.7	1875.6	1872.3	1985.5	2133.8	2155.9	2138.7	2244.3	2201.2	2262.7
15°	1843.2	1882.6	1860.5	1879.3	1924.1	2112.8	2174.2	2236.8	2337.0	2375.9	2314.4
17.5°	1937.0	1958.1	1858.9	1848.6	1940.8	2030.3	2182.9	2236.2	2251.9	2528.4	2441.6
20°	1897.1	1939.7	1842.7	1718.1	1871.3	1989.9	2140.3	2124.1	2200.1	2540.3	2468.1
22.5°	2010.3	1939.7	1816.3	1727.9	1781.8	1890.7	2018.4	2124.6	2214.7	2470.7	2506.3
25°	2031.9	1998.5	1883.1	1795.2	1776.9	1815.7	1997.9	2067.5	2219.5	2565.6	2485.8
27.5°	2163.5	2113.3	1878.3	1881.0	1789.9	1721.4	1933.3	2079.4	2274.5	2506.9	2536.0
30°	2326.8	2288.5	1993.6	2004.4	1878.3	1752.1	1977.5	2021.7	2306.3	2598.5	2599.1
32.5°	2449.2	2516.6	2220.6	2074.0	2029.2	1934.9	1909.5	2108.5	2269.1	2764.6	2706.9
35°	2669.7	2722.0	2395.3	2277.7	2126.3	2020.1	2093.9	2165.6	2423.8	2982.9	2867.0
37.5°	3077.8	3017.4	2719.8	2534.9	2478.3	2325.2	2366.2	2316.0	2592.0	3228.2	3180.8
40°	3313.9	3261.6	2948.4	2846.0	2621.7	2641.1	2589.9	2626.6	2816.9	3489.1	3474.0
42.5°	3546.8	3476.7	3212.0	3140.9	2917.1	2822.3	2831.4	2950.0	3163.5	3910.7	3860.6
45°	3777.0	3597.5	3481.6	3500.5	3392.6	3198.0	3211.5	3323.1	3542.0	4392.7	4277.3
47.5°	3953.3	3805.1	3714.5	3691.3	3637.9	3898.3	3781.9	3827.2	3923.7	4821.8	4778.1
50°	4287.0	4114.0	3995.9	3962.5	4143.6	4505.9	4268.7	4171.1	4376.5	5376.6	5353.9
52.5°	4821.3	4605.6	4408.9	4406.7	4668.7	4903.8	5070.9	4902.7	4978.2	5944.8	6009.5
55°	5287.6	5038.0	4861.2	4958.8	5331.8	5475.8	6043.4	5911.9	5848.3	6518.4	6703.3
57.5°	5461.7	5170.1	5054.7	5198.7	5748.5	6488.2	7088.2	6742.1	6680.1	7167.5	7555.1
60°	5079.5	4771.1	4778.1	5049.3	6001.9	7231.6	8230.6	7936.8	7573.4	7975.6	8354.1
62.5°	3990.5	3711.8	3893.5	4305.9	5789.5	7954.1	9761.7	9885.7	8594.0	8645.7	8797.2
65°	2712.3	2519.3	2683.2	3087.0	4695.7	8348.1	11220.0	11717.1	9523.4	9084.6	8988.6
67.5°	1785.0	1648.6	1680.4	1948.9	3232.5	7116.8	12195.2	12737.1	10373.0	9444.7	8651.1
70°	1382.3	1272.3	1258.3	1399.0	1917.1	4944.2	11617.3	12441.1	10890.6	9107.2	7540.6
72.5°	1084.7	1001.1	1008.7	1144.0	1484.7	2743.0	8989.7	10579.5	10111.0	7854.3	5793.3
75°	845.9	777.4	815.7	970.4	1373.1	1704.7	6202.5	8029.5	7817.1	5815.9	3304.2
77.5°	614.0	569.8	624.3	826.5	1290.6	1462.6	3861.1	5601.9	5007.8	2986.1	1133.8
80°	402.7	377.9	422.7	673.9	1170.4	1407.6	2386.1	3432.5	2474.5	838.9	429.1
82.5°	237.2	226.4	263.6	456.1	940.8	1319.2	1591.5	1907.4	1012.5	354.7	228.0
85°	124.5	116.4	156.3	262.0	648.6	1204.4	1252.9	1141.8	489.0	154.2	108.9
87.5°	41.5	40.4	66.3	101.4	245.3	639.4	668.5	542.3	201.6	44.7	23.7
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°	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8	1203.8
2.5°	1463.7	1442.1	1318.1	1335.4	1351.6	1343.5	1338.6	1282.5	1277.2	1356.9	1350.5
5°	1844.3	1754.8	1649.1	1644.3	1574.7	1503.6	1517.6	1495.0	1501.4	1534.3	1537.5
7.5°	2045.4	1933.8	1833.0	1669.1	1530.0	1417.3	1435.1	1429.7	1415.2	1489.6	1509.5
10°	2041.6	1942.4	1828.7	1630.3	1536.5	1444.8	1334.8	1230.8	1200.1	1163.4	1166.6
12.5°	2176.4	2088.5	1840.5	1638.4	1511.1	1353.2	1147.2	1033.5	924.6	922.4	894.9
15°	2218.4	2153.8	1865.9	1592.0	1333.8	1107.3	894.4	770.9	692.2	676.6	653.4
17.5°	2324.6	2223.3	1788.8	1442.1	1127.8	865.8	672.3	586.0	579.5	590.3	578.5
20°	2331.7	2167.2	1649.7	1220.5	906.2	656.1	548.3	505.1	528.3	554.7	553.7
22.5°	2325.7	2096.6	1529.5	1031.9	680.9	527.3	480.3	470.6	492.2	531.6	536.4
25°	2265.3	2073.4	1379.0	847.5	552.6	451.8	438.8	444.8	471.7	518.1	518.1
27.5°	2328.4	1979.1	1190.4	689.5	464.7	402.2	411.3	426.4	446.4	499.2	508.9
30°	2307.9	2010.3	1038.3	555.3	409.7	367.7	388.2	403.3	425.9	480.9	485.7
32.5°	2362.9	1926.8	910.6	466.9	373.6	354.2	359.0	379.5	409.2	452.3	460.9
35°	2447.0	1957.5	763.9	420.0	355.8	338.6	347.7	363.9	393.6	435.6	442.6
37.5°	2715.5	1955.9	662.6	394.1	352.6	335.3	339.6	351.0	385.5	423.7	439.9
40°	2888.0	2068.0	570.4	388.2	348.8	333.7	329.9	342.3	369.8	415.1	426.4
42.5°	3212.0	2136.5	530.5	386.0	348.3	324.5	320.8	335.3	362.3	404.3	421.6
45°	3554.4	2234.1	498.7	384.9	346.6	322.9	311.6	329.9	352.6	393.0	413.0
47.5°	3957.1	2440.6	480.9	381.2	343.4	325.1	308.4	317.5	342.9	383.3	403.3
50°	4484.3	2713.9	484.7	375.8	348.3	325.6	303.5	307.8	331.0	370.4	390.9
52.5°	5125.3	3137.1	508.9	377.9	351.5	322.9	301.4	299.2	319.2	353.7	374.1
55°	5897.9	3737.7	581.7	388.2	351.5	322.4	298.1	288.4	303.5	331.6	351.5
57.5°	6830.0	4433.1	724.0	393.0	348.8	319.2	291.1	273.9	283.0	306.2	325.1
60°	7630.6	4994.3	870.7	396.2	354.2	311.6	277.1	255.5	261.5	279.3	296.0
62.5°	8038.7	5151.8	914.9	393.6	368.8	306.8	260.4	236.1	236.7	251.8	266.9
65°	8115.2	4942.0	737.5	390.9	387.6	306.2	248.5	219.4	215.6	226.4	239.4
67.5°	7569.7	4289.7	532.1	384.9	389.8	303.0	240.4	205.9	196.2	203.8	214.6
70°	6427.3	3454.6	446.9	373.1	363.9	286.8	226.4	191.9	179.0	184.4	192.5
72.5°	4791.6	2555.9	389.8	347.7	317.0	245.3	204.9	176.3	162.8	166.6	172.5
75°	2662.1	1363.4	326.2	302.4	258.8	198.4	174.7	156.3	144.5	146.1	152.6
77.5°	884.1	503.0	239.4	239.9	195.7	153.1	143.9	133.7	124.5	125.1	130.5
80°	400.6	278.2	171.4	172.5	136.4	111.1	110.5	107.3	101.4	99.7	103.5
82.5°	232.4	168.7	117.5	112.1	87.9	72.2	80.3	78.7	77.1	71.2	72.2
85°	114.3	90.6	61.5	58.2	48.5	36.1	43.1	44.7	43.1	36.7	36.1
87.5°	28.0	29.7	15.1	14.0	8.1	3.8	6.5	6.5	8.1	5.4	2.7
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)