

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: P367774

Luminaire Tested: **MSA-SA3A-830-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367774
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-SA3A-830-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 9080 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

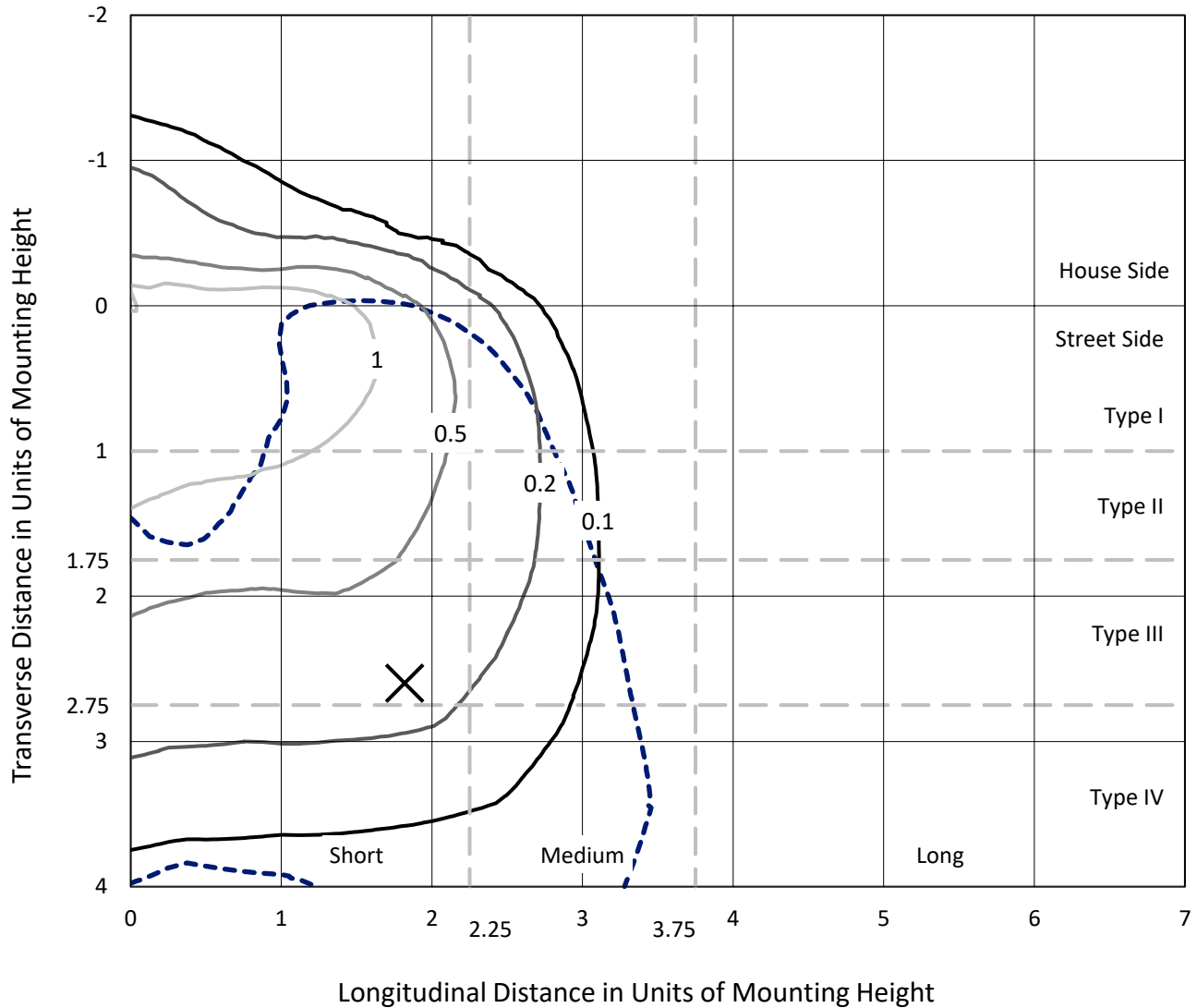
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

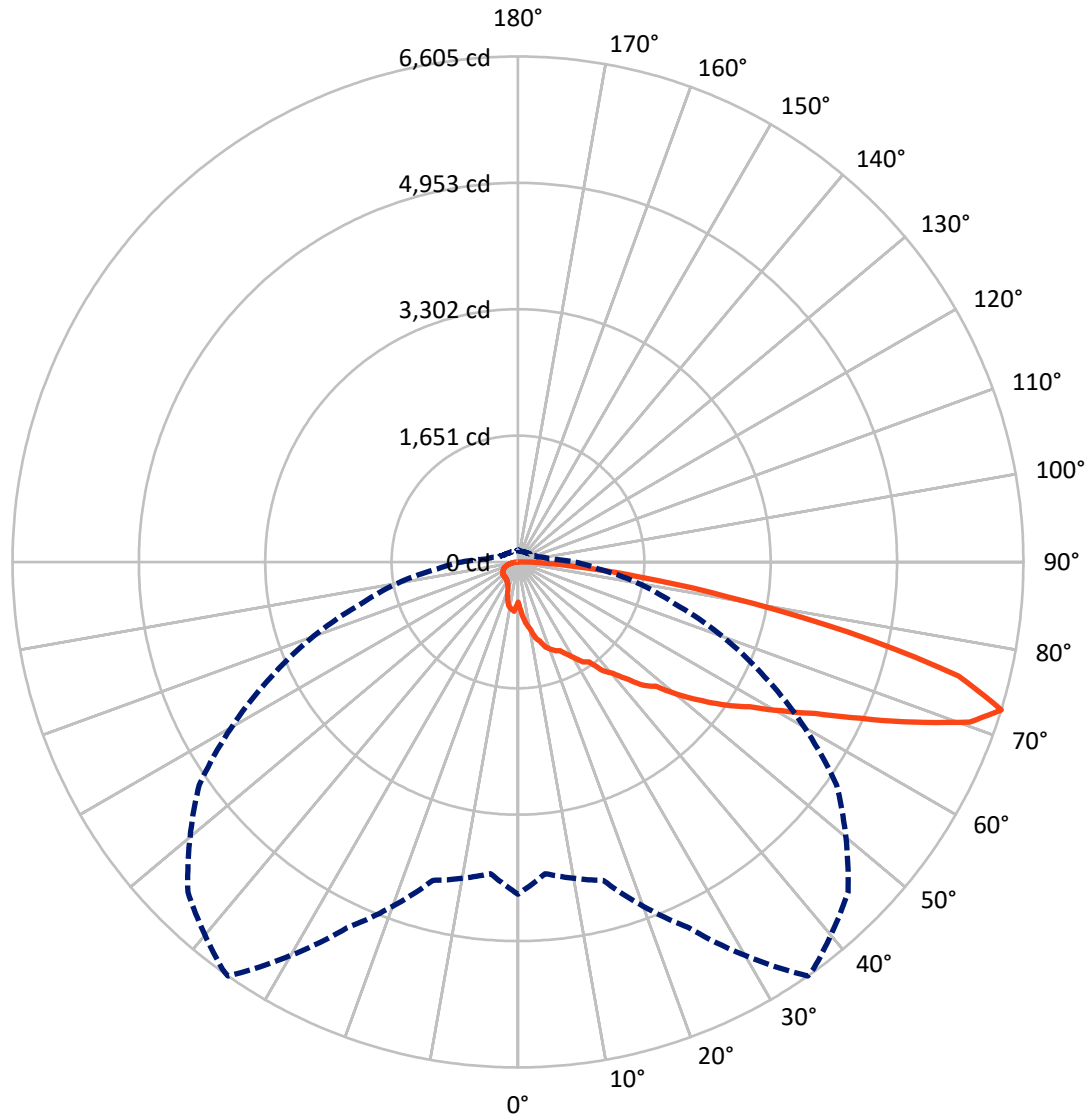
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1218.5	0.0	1218.5
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	7861.5	0.0	7861.5
	% Fixture	86.6	0.0	86.6
Total	Lumens	9080.0	0.0	9080.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.7	0.8
10°-20°	245.7	2.7
20°-30°	426.8	4.7
30°-40°	713.4	7.9
40°-50°	1238.2	13.6
50°-60°	1871.9	20.6
60°-70°	2425.0	26.7
70°-80°	1789.4	19.7
80°-90°	299.9	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°	9080.0	100.0
0°-180°	9080.0	100.0

Coefficient of Utilization



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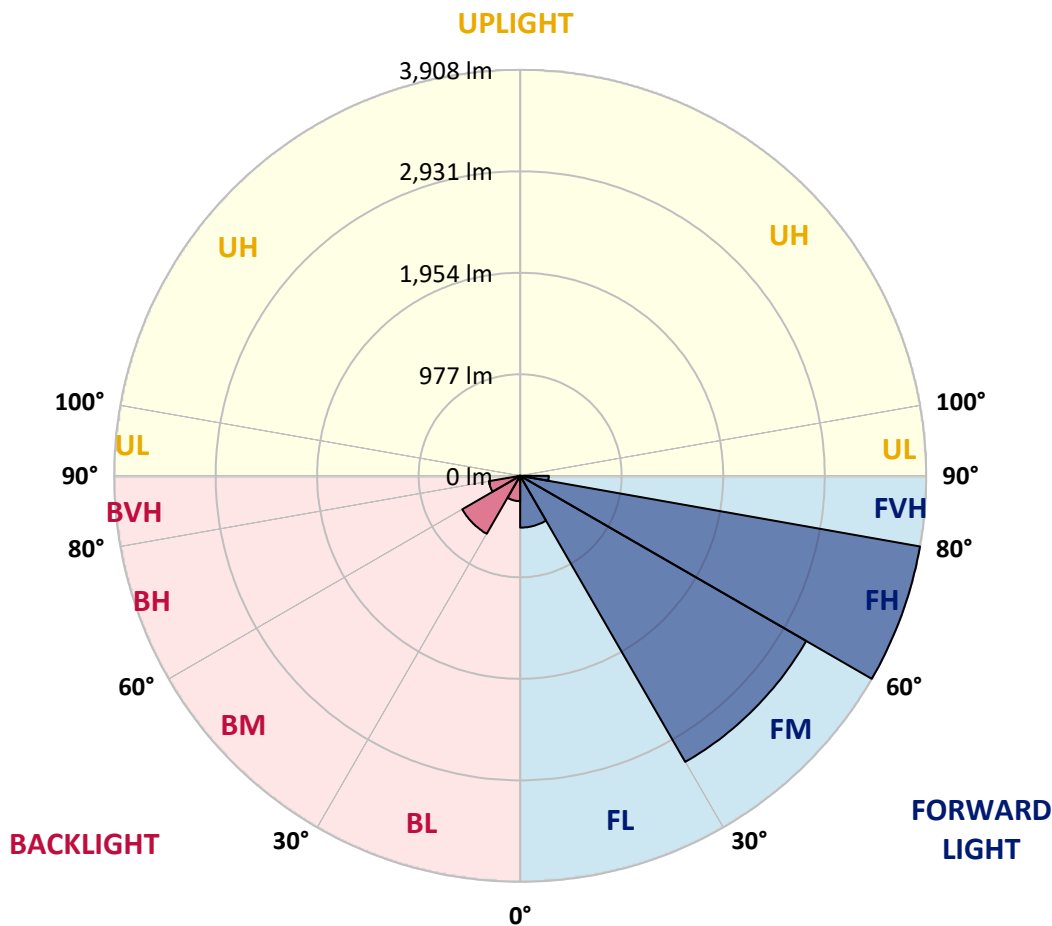
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	498.7	5.5			
FM (30°-60°)	3179.5	35.0			
FH (60°-80°)	3908.0	43.0			G2/5000
FVH (80°-90°)	275.4	3.0			G3/500
BL (0°-30°)	243.6	2.7	B1/500		
BM (30°-60°)	644.0	7.1	B1/1000		
BH (60°-80°)	306.4	3.4	B1/500		G1/500
BVH (80°-90°)	24.6	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°	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7
2.5°	654.6	623.2	596.0	594.9	620.1	629.8	625.9	617.4	607.3	586.0	632.5
5°	820.0	775.1	766.6	756.5	733.6	739.8	702.6	730.9	739.8	760.4	791.4
7.5°	917.7	891.4	870.8	862.3	822.8	818.1	790.6	830.9	848.0	845.2	891.4
10°	956.1	932.0	933.6	905.7	892.9	898.3	901.4	902.2	912.7	921.2	897.9
12.5°	975.8	985.1	1019.2	1000.3	1016.5	1023.1	1055.7	1022.3	1023.5	979.7	1003.7
15°	1075.4	1098.7	1078.9	1078.2	1073.1	1084.0	1111.9	1089.4	1106.8	1092.9	1061.9
17.5°	1195.6	1202.6	1164.6	1149.1	1169.2	1165.7	1158.8	1162.3	1118.8	1199.5	1161.5
20°	1232.4	1259.9	1209.9	1149.1	1215.7	1224.6	1223.1	1208.0	1133.6	1249.8	1213.0
22.5°	1339.4	1302.2	1262.6	1223.9	1258.0	1263.0	1254.5	1218.4	1193.6	1237.8	1266.9
25°	1387.8	1378.9	1328.5	1323.9	1286.3	1268.4	1283.2	1272.7	1248.3	1327.0	1294.8
27.5°	1498.6	1488.2	1372.3	1420.0	1365.3	1360.7	1282.8	1317.7	1342.1	1336.3	1384.3
30°	1624.2	1636.2	1466.9	1514.5	1451.4	1442.8	1364.5	1408.7	1425.4	1430.8	1490.9
32.5°	1763.7	1796.7	1628.5	1589.3	1555.6	1561.4	1495.2	1414.5	1479.3	1606.0	1632.0
35°	1914.9	1928.4	1752.1	1693.2	1605.2	1599.0	1600.2	1610.3	1675.7	1820.3	1840.5
37.5°	2194.3	2131.5	1976.9	1827.7	1798.2	1740.5	1779.6	1810.6	1876.1	2097.8	2182.3
40°	2366.4	2319.8	2084.2	1997.8	1916.4	1921.8	1995.1	1994.7	2149.3	2378.0	2507.0
42.5°	2525.6	2474.9	2252.8	2166.0	2088.9	2107.9	2128.8	2165.6	2462.1	2830.6	2889.5
45°	2653.9	2542.7	2383.0	2363.6	2300.1	2274.9	2363.6	2422.5	2836.1	3196.9	3231.0
47.5°	2741.1	2649.7	2493.5	2476.4	2429.5	2491.1	2733.4	2771.3	3125.9	3564.6	3561.9
50°	2873.7	2748.5	2607.4	2598.5	2730.6	2763.6	3058.9	3055.0	3408.1	3870.0	3806.1
52.5°	3026.3	2868.6	2715.5	2811.3	3012.8	3029.1	3285.2	3389.5	3716.2	4164.6	3997.5
55°	3201.9	3025.6	2877.5	3005.4	3305.4	3257.3	3516.6	3771.2	4101.8	4475.0	4135.9
57.5°	3419.3	3205.4	3085.6	3280.2	3572.4	3615.0	3847.9	4168.4	4412.2	4668.0	4236.7
60°	3648.7	3397.6	3287.9	3473.2	3946.4	3995.2	4223.1	4498.6	4760.2	4849.7	4217.7
62.5°	3867.7	3596.0	3496.8	3725.5	4361.1	4482.0	4650.2	4825.7	5049.7	4893.9	3987.8
65°	4111.5	3839.4	3777.0	4120.0	4923.4	5043.5	5263.3	5210.6	5148.9	4737.4	3607.7
67.5°	4369.6	4093.3	4104.9	4577.7	5586.5	5607.0	5944.6	5594.2	5032.3	4322.7	2969.4
70°	4508.3	4225.4	4345.2	5065.6	6261.2	6231.7	6300.7	5697.3	4556.8	3417.0	2046.6
72.5°	4340.1	4087.8	4307.2	5271.0	6604.6	6572.8	6100.7	5085.4	3562.7	2124.9	1061.1
75°	3674.7	3431.3	3766.9	4698.6	5945.7	5975.2	5192.0	3781.7	2039.7	854.5	440.6
77.5°	2497.0	2371.4	2659.0	3502.3	4416.5	4518.4	3852.2	2211.3	856.5	353.8	266.6
80°	1319.6	1259.9	1472.3	2017.6	2796.5	2872.5	2265.2	1101.4	438.7	229.0	190.3
82.5°	717.0	691.8	805.7	1037.5	1588.9	1655.2	1174.7	731.7	295.7	143.4	116.3
85°	481.7	472.0	547.6	557.3	751.5	773.2	615.4	563.5	177.5	70.1	76.7
87.5°	241.1	231.4	288.3	254.6	286.8	287.2	282.1	359.6	45.0	23.3	14.0
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°	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7
2.5°	633.2	619.7	572.8	572.4	579.4	574.7	578.2	559.2	551.1	588.3	586.4
5°	787.1	746.4	707.3	693.7	677.8	643.3	645.3	645.7	639.8	661.9	663.5
7.5°	877.4	828.6	792.5	720.4	663.9	619.7	625.5	632.1	625.5	655.0	665.8
10°	890.6	851.8	808.8	728.6	691.0	651.1	610.8	575.1	570.9	557.3	561.6
12.5°	968.9	936.7	846.8	758.8	715.0	653.8	580.2	539.5	505.4	511.2	500.3
15°	1033.2	1010.3	902.6	787.5	682.9	606.9	528.6	472.8	442.2	438.7	427.9
17.5°	1120.4	1087.8	907.6	767.7	641.4	550.3	462.0	398.8	385.6	380.2	374.8
20°	1162.3	1103.7	889.4	705.7	592.9	482.9	396.1	341.8	337.9	347.6	345.7
22.5°	1198.7	1116.9	873.1	668.1	517.4	414.7	351.1	315.5	311.2	323.6	325.9
25°	1220.0	1154.5	855.3	629.8	470.5	363.9	317.4	297.2	298.0	314.3	312.4
27.5°	1316.1	1167.7	810.4	584.4	416.6	326.3	301.1	290.7	286.4	308.9	310.8
30°	1376.6	1253.7	800.3	536.4	376.7	298.8	286.4	282.1	281.4	308.5	310.4
32.5°	1489.0	1282.4	804.9	484.0	340.7	290.3	275.5	275.2	282.9	308.9	312.0
35°	1644.7	1403.3	782.5	454.2	320.9	277.1	267.0	270.1	283.3	311.6	315.8
37.5°	1948.6	1517.2	789.4	426.3	314.3	272.8	264.7	266.6	287.9	318.6	330.2
40°	2189.2	1723.8	778.6	412.3	305.4	272.1	259.7	267.4	287.6	322.4	332.9
42.5°	2538.0	1888.5	779.7	398.4	305.0	269.0	258.9	268.2	286.8	319.0	333.3
45°	2837.2	2036.2	796.4	390.3	301.1	274.0	257.7	269.3	281.7	306.5	322.4
47.5°	3082.5	2200.9	813.5	382.5	299.6	278.6	256.6	261.2	273.2	292.6	306.9
50°	3282.5	2316.7	835.2	381.0	299.6	276.3	253.5	253.1	263.1	278.6	292.2
52.5°	3438.3	2398.5	849.9	382.9	299.6	267.4	249.6	246.5	252.7	263.9	277.5
55°	3551.1	2423.7	837.9	387.9	299.2	259.3	242.6	239.9	243.0	250.7	263.5
57.5°	3596.4	2357.4	766.2	379.0	299.2	253.5	234.1	231.0	234.1	239.9	252.7
60°	3482.9	2144.3	662.7	356.2	293.4	245.7	224.4	222.5	227.1	232.1	244.5
62.5°	3198.0	1861.0	552.3	329.0	281.4	239.1	215.1	215.5	222.8	229.8	242.2
65°	2755.5	1518.4	460.4	301.5	266.2	228.7	205.4	208.1	218.6	227.9	240.3
67.5°	2168.3	1125.0	387.5	274.8	244.9	211.6	194.5	195.3	202.7	211.6	223.6
70°	1449.4	715.8	318.6	243.4	217.0	189.5	177.9	175.2	173.2	181.0	191.4
72.5°	735.2	422.8	261.6	208.1	186.8	165.5	156.6	149.6	144.2	148.8	157.0
75°	385.2	295.7	211.2	172.8	154.2	140.7	134.1	124.8	120.9	123.6	129.4
77.5°	272.4	231.4	170.9	136.8	125.6	111.6	112.8	103.1	100.0	101.5	107.7
80°	209.3	183.3	131.4	103.5	96.9	83.3	87.2	81.4	77.5	76.7	81.4
82.5°	142.6	138.0	93.4	72.5	67.8	58.1	63.6	61.2	56.2	53.1	55.4
85°	96.1	91.5	57.0	41.9	39.9	30.2	38.8	37.2	32.9	28.3	28.7
87.5°	16.7	30.6	16.3	10.5	9.7	3.5	8.9	8.5	7.8	3.9	3.1
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)