

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: P368176

Luminaire Tested: **MSA-SA3D-830-U-T2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368176
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3D-830-U-T2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15776 lumens
Efficiency: N/A
Efficacy: 82.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B2 - U0 - G3

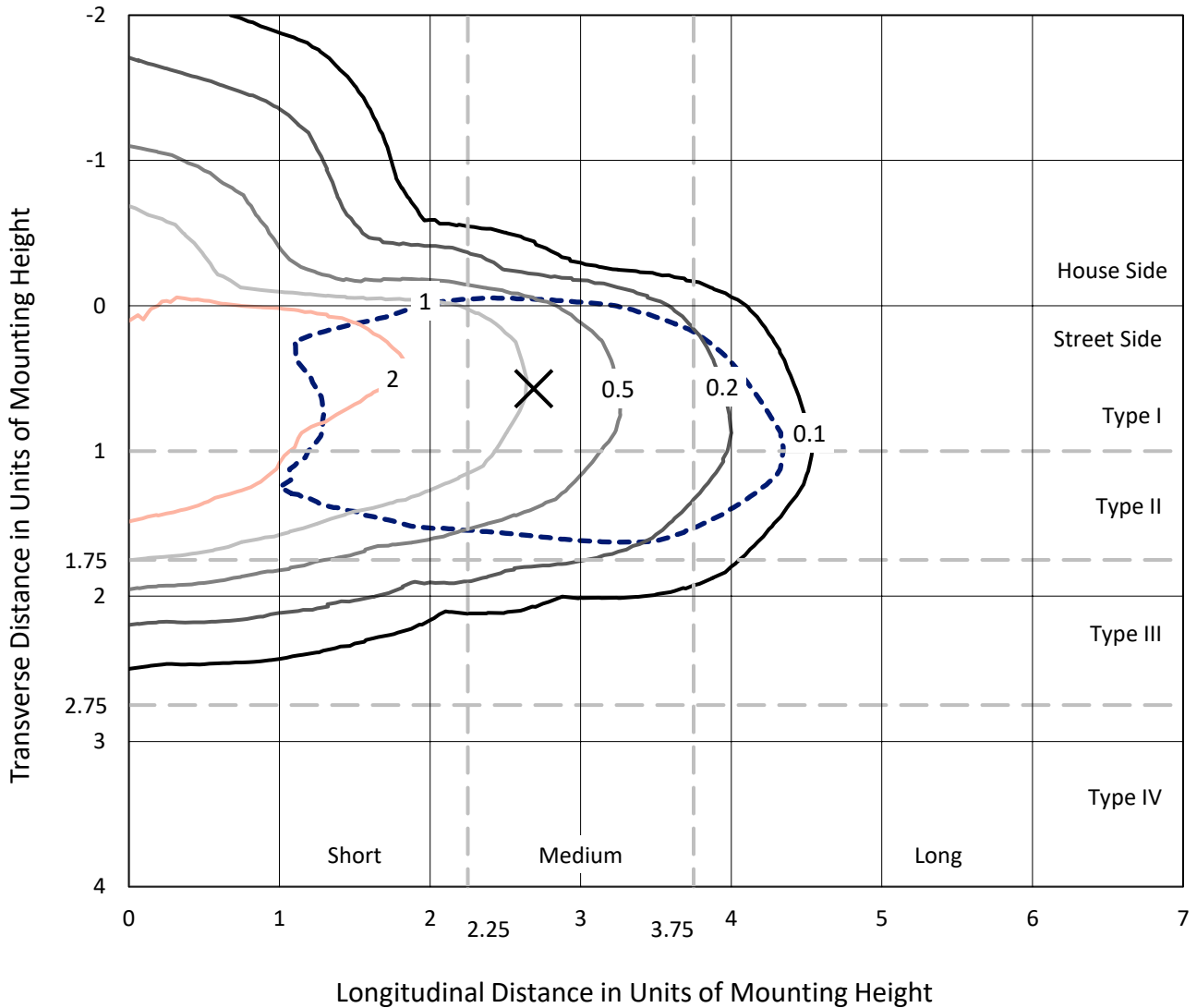
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

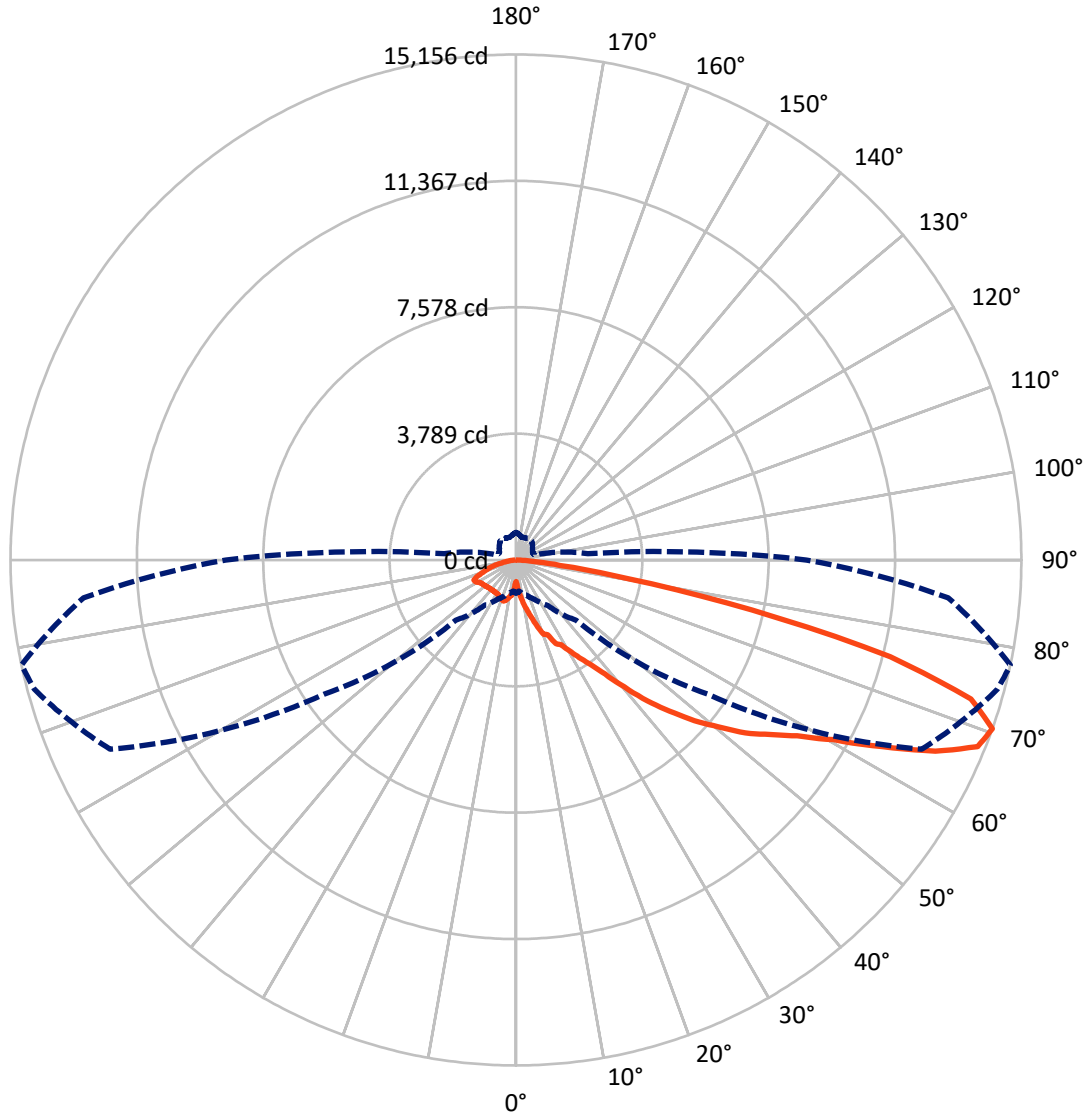
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 fc
 Type II - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2815.8	0.0	2815.8
	% Fixture	17.8	0.0	17.8
Street Side	Lumens	12960.2	0.0	12960.2
	% Fixture	82.2	0.0	82.2
Total	Lumens	15776.0	0.0	15776.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.4	0.6
10°-20°	437.9	2.8
20°-30°	843.0	5.3
30°-40°	1419.9	9.0
40°-50°	2456.8	15.6
50°-60°	3709.4	23.5
60°-70°	4108.6	26.0
70°-80°	2368.8	15.0
80°-90°	332.2	2.1
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°	15776.0	100.0
0°-180°	15776.0	100.0

Coefficient of Utilization

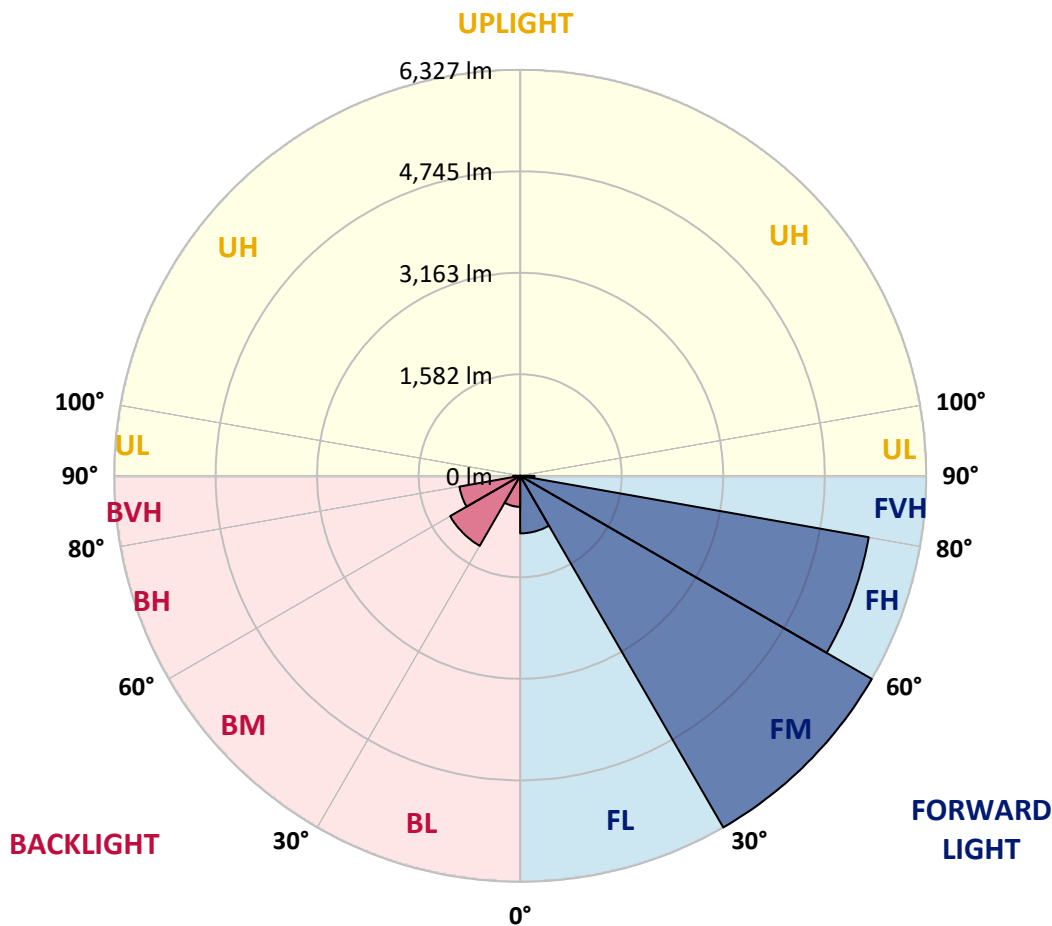


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	896.8	5.7			
FM (30°-60°)	6326.6	40.1			
FH (60°-80°)	5515.1	35.0			G3/7500
FVH (80°-90°)	221.6	1.4			G2/225
BL (0°-30°)	483.5	3.1	B1/500		
BM (30°-60°)	1259.4	8.0	B2/2500		
BH (60°-80°)	962.3	6.1	B2/1000		G2/1000
BVH (80°-90°)	110.6	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3
 Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2
2.5°	828.0	798.4	753.7	772.1	794.5	797.1	789.9	749.1	735.3	766.2	775.4
5°	1160.1	1110.1	1079.9	1070.0	1036.5	966.8	1016.7	991.1	996.4	981.2	1010.8
7.5°	1439.6	1406.1	1361.4	1348.9	1271.9	1217.3	1251.5	1240.4	1186.4	1165.4	1198.9
10°	1581.7	1544.9	1546.8	1519.9	1499.5	1504.7	1487.6	1438.3	1398.2	1369.9	1289.0
12.5°	1667.2	1676.4	1725.7	1711.9	1788.8	1852.0	1804.0	1731.0	1604.0	1578.4	1498.2
15°	1870.4	1904.6	1858.6	1879.6	1912.5	2033.5	2013.8	1998.0	1863.8	1813.8	1665.9
17.5°	2079.5	2086.1	2016.4	2005.2	2084.1	2145.3	2222.2	2133.5	2149.9	2115.0	1875.7
20°	2124.3	2169.6	2069.7	2000.6	2163.1	2284.1	2379.4	2285.4	2372.2	2381.4	2048.6
22.5°	2288.0	2233.4	2101.9	2034.2	2176.2	2324.8	2480.0	2532.7	2505.0	2427.4	2215.7
25°	2401.8	2372.8	2238.7	2163.7	2217.6	2354.4	2626.7	2764.2	2788.5	2778.0	2374.8
27.5°	2612.9	2627.4	2351.1	2372.2	2297.2	2309.7	2714.8	3071.3	2919.4	2877.3	2572.1
30°	2946.3	2881.9	2572.1	2589.2	2464.9	2443.9	2901.0	3336.3	3200.2	3149.5	2734.6
32.5°	3294.2	3300.2	2924.0	2778.0	2711.5	2690.5	2864.1	3475.1	3555.3	3489.6	2979.9
35°	3784.9	3750.7	3305.4	3113.4	2873.3	2836.5	3126.5	3877.6	4024.9	3840.8	3271.2
37.5°	4532.0	4428.7	3910.5	3466.5	3289.0	3246.9	3501.4	4238.6	4570.1	4341.2	3747.4
40°	5131.7	4922.0	4451.1	3910.5	3609.9	3661.9	3767.8	4676.6	5135.7	5006.8	4188.0
42.5°	5609.9	5423.7	4833.8	4453.7	4045.3	3980.8	4096.6	5219.2	5905.2	5778.9	4737.8
45°	6068.3	5689.4	5263.9	4922.0	4529.3	4607.6	4590.5	5773.0	6848.9	6460.2	5223.8
47.5°	6520.7	6164.9	5719.7	5260.0	4864.7	5352.1	5169.9	6184.7	7485.5	7197.5	5735.5
50°	7102.1	6710.8	6203.7	5741.4	5504.6	5861.1	5555.3	6533.2	8198.4	7860.4	6218.2
52.5°	7488.2	7107.4	6662.8	6332.6	6310.9	6173.5	6095.2	6974.5	8823.2	8618.0	6729.9
55°	7442.8	7075.8	6874.6	6910.7	7179.1	6715.4	6651.6	7627.6	9475.0	9237.5	7282.3
57.5°	6873.9	6473.4	6516.1	6730.5	7451.3	7667.0	7558.5	8325.4	10056.3	9948.5	7965.6
60°	5354.7	5148.8	5496.7	5888.7	7087.0	7945.9	8708.8	9176.4	10771.9	10944.2	9038.9
62.5°	3478.4	3203.5	3753.3	4418.8	5999.9	7761.7	9880.1	10790.3	11943.8	12335.1	10669.9
65°	1802.0	1757.9	2142.7	2754.3	4176.8	6618.1	10293.1	12483.1	13368.3	13824.1	12227.9
67.5°	1310.1	1228.5	1406.7	1766.5	2549.8	4512.9	9510.5	13778.0	14512.0	14929.6	13133.5
70°	997.7	937.2	1073.3	1296.3	1665.2	2549.1	7020.6	13424.9	14953.3	15155.9	13013.2
72.5°	747.1	695.2	814.2	1022.0	1283.1	1435.0	4149.9	11038.2	14200.3	14269.3	11679.4
75°	596.5	556.4	607.7	807.0	1045.7	976.6	2204.5	7997.2	11537.4	11596.6	8921.2
77.5°	489.3	455.1	476.1	605.1	813.5	734.6	1093.7	5087.0	7325.1	7234.3	5019.3
80°	399.2	369.6	379.5	437.3	619.5	548.5	614.3	2653.7	3494.2	3353.4	2087.4
82.5°	307.1	282.1	301.9	321.6	448.5	393.9	358.4	1207.5	1431.1	1333.1	765.5
85°	205.8	182.8	262.4	241.4	293.3	242.0	196.0	480.8	533.4	497.2	269.0
87.5°	56.6	53.3	88.1	120.4	120.4	91.4	71.7	116.4	148.6	130.2	63.1
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°	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2
2.5°	779.3	764.9	726.7	723.4	732.6	734.0	728.0	714.2	707.0	746.4	740.5
5°	1003.6	952.3	921.4	893.1	853.6	825.4	832.6	852.3	858.9	888.5	891.8
7.5°	1177.9	1110.1	1042.4	951.6	891.8	853.6	882.6	903.6	920.1	962.2	979.3
10°	1253.5	1179.8	1083.8	988.5	972.0	978.6	962.2	967.4	993.1	995.0	1003.6
12.5°	1394.2	1310.7	1137.8	1051.6	1047.0	1060.8	1054.9	1079.2	1097.0	1145.0	1124.6
15°	1529.1	1422.5	1178.5	1090.4	1071.3	1099.0	1131.2	1172.0	1210.1	1255.5	1232.5
17.5°	1692.8	1532.4	1180.5	1072.6	1075.9	1135.1	1168.7	1191.0	1304.8	1367.3	1335.7
20°	1796.1	1543.5	1136.4	1028.6	1075.9	1129.2	1175.9	1200.2	1327.8	1421.9	1443.6
22.5°	1889.5	1547.5	1102.2	1004.9	1035.2	1105.5	1175.9	1229.8	1311.4	1401.5	1404.8
25°	1940.8	1544.2	1058.2	1006.9	1034.5	1069.4	1131.8	1181.2	1241.7	1367.3	1370.6
27.5°	2072.3	1501.4	1014.8	1014.8	1029.2	1030.6	1110.1	1139.1	1147.6	1262.1	1282.4
30°	2110.4	1510.7	1009.5	1013.5	1020.7	1007.5	1042.4	1061.5	1074.0	1172.6	1175.9
32.5°	2171.6	1437.0	1025.3	1001.6	992.4	990.4	999.0	1016.1	1021.4	1081.9	1093.0
35°	2245.9	1407.4	1030.6	998.3	979.9	970.1	995.7	974.7	991.1	1062.1	1070.0
37.5°	2487.9	1366.6	1057.5	998.3	974.7	963.5	951.0	960.8	1019.4	1087.8	1129.9
40°	2642.5	1379.1	1050.9	1008.2	956.9	946.4	925.3	961.5	1052.3	1173.3	1204.8
42.5°	2913.4	1386.4	1058.8	1003.6	962.8	922.0	935.9	975.3	1070.7	1139.7	1188.4
45°	3193.6	1408.7	1053.6	989.8	949.7	968.7	949.7	985.2	1030.6	1032.5	1069.4
47.5°	3468.5	1498.8	1042.4	961.5	946.4	996.4	947.7	953.6	956.9	968.7	1012.1
50°	3791.4	1594.8	1026.6	922.0	951.0	997.7	954.9	926.0	922.7	961.5	1010.2
52.5°	4158.4	1703.3	1006.2	883.9	924.0	985.2	979.9	928.0	899.7	937.2	985.8
55°	4590.5	1827.0	982.5	845.8	894.4	986.5	993.7	914.2	900.3	941.1	993.1
57.5°	5164.6	2005.9	936.5	790.5	858.3	966.1	958.2	898.4	885.2	928.6	982.5
60°	6144.5	2349.8	870.7	735.9	819.4	916.1	929.3	870.1	856.9	904.9	961.5
62.5°	7456.6	2763.5	791.2	682.7	772.1	862.2	893.1	829.3	828.0	889.2	948.4
65°	8677.9	2998.3	709.0	634.0	723.4	812.2	852.3	791.2	793.8	870.7	929.9
67.5°	9185.6	2722.1	635.3	590.6	667.5	755.0	818.8	761.6	753.0	845.8	900.3
70°	8708.8	2162.4	571.5	544.5	604.4	693.2	772.1	722.1	702.4	786.6	829.3
72.5°	7705.8	1802.7	511.7	490.6	549.1	628.1	709.0	668.8	643.2	707.6	745.8
75°	6023.5	1479.1	443.3	437.3	486.0	568.9	643.2	615.6	582.7	623.5	661.6
77.5°	3429.7	935.9	372.2	376.2	411.0	498.5	564.3	542.6	509.0	526.1	570.2
80°	1372.5	472.2	299.2	301.9	331.5	409.7	467.6	459.7	424.9	438.7	468.9
82.5°	513.0	259.1	221.0	222.3	251.9	324.2	399.2	395.3	362.4	352.5	369.6
85°	203.9	128.2	135.5	141.4	169.7	233.5	320.3	284.1	245.3	215.1	225.6
87.5°	48.7	40.8	47.4	50.0	55.2	73.0	117.1	94.0	96.7	77.6	57.9
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)