

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: P368704

Luminaire Tested: **MSA-SA4D-830-U-T2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368704
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-SA4D-830-U-T2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20851 lumens
Efficiency: N/A
Efficacy: 80.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B3 - U0 - G3

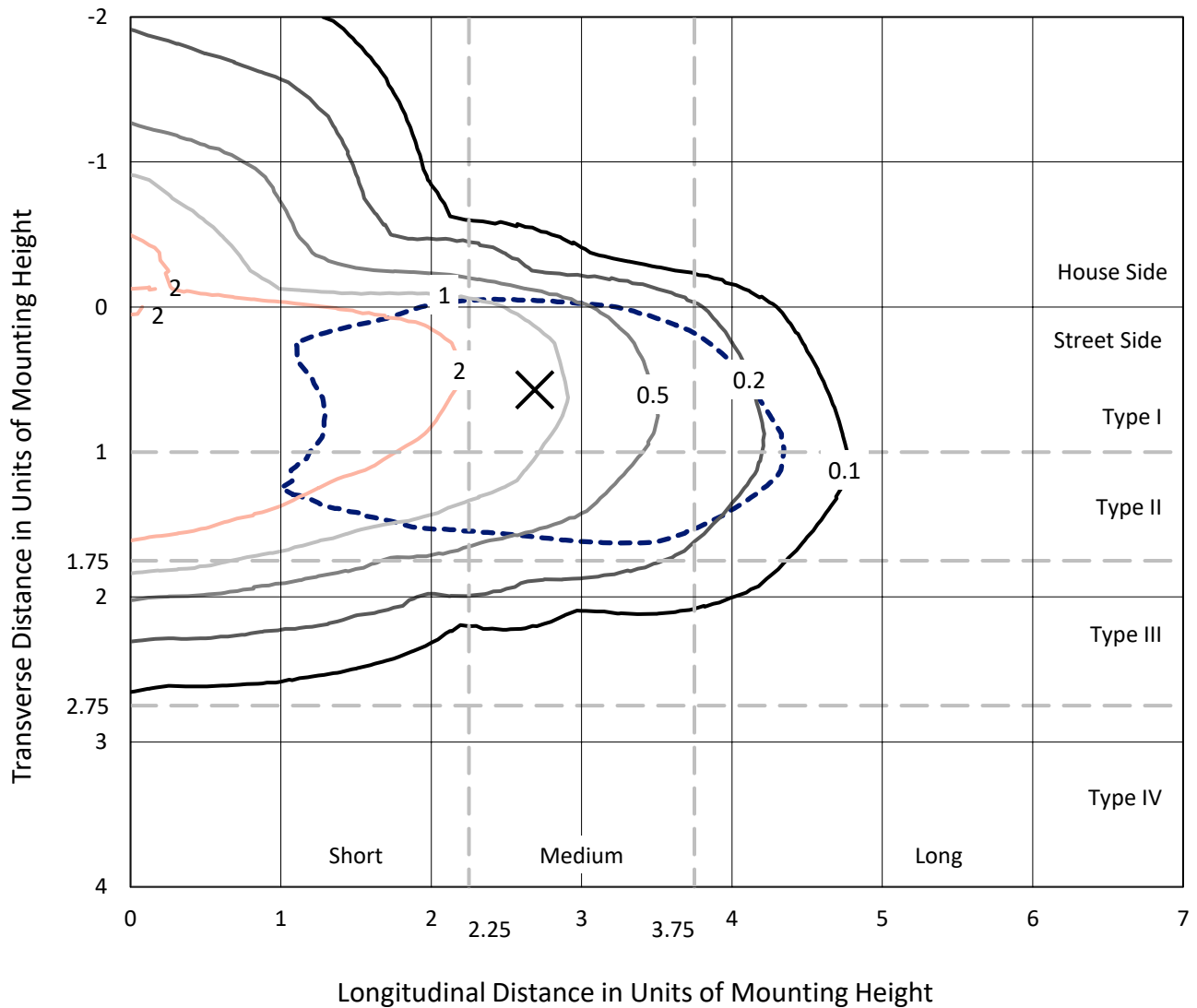
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

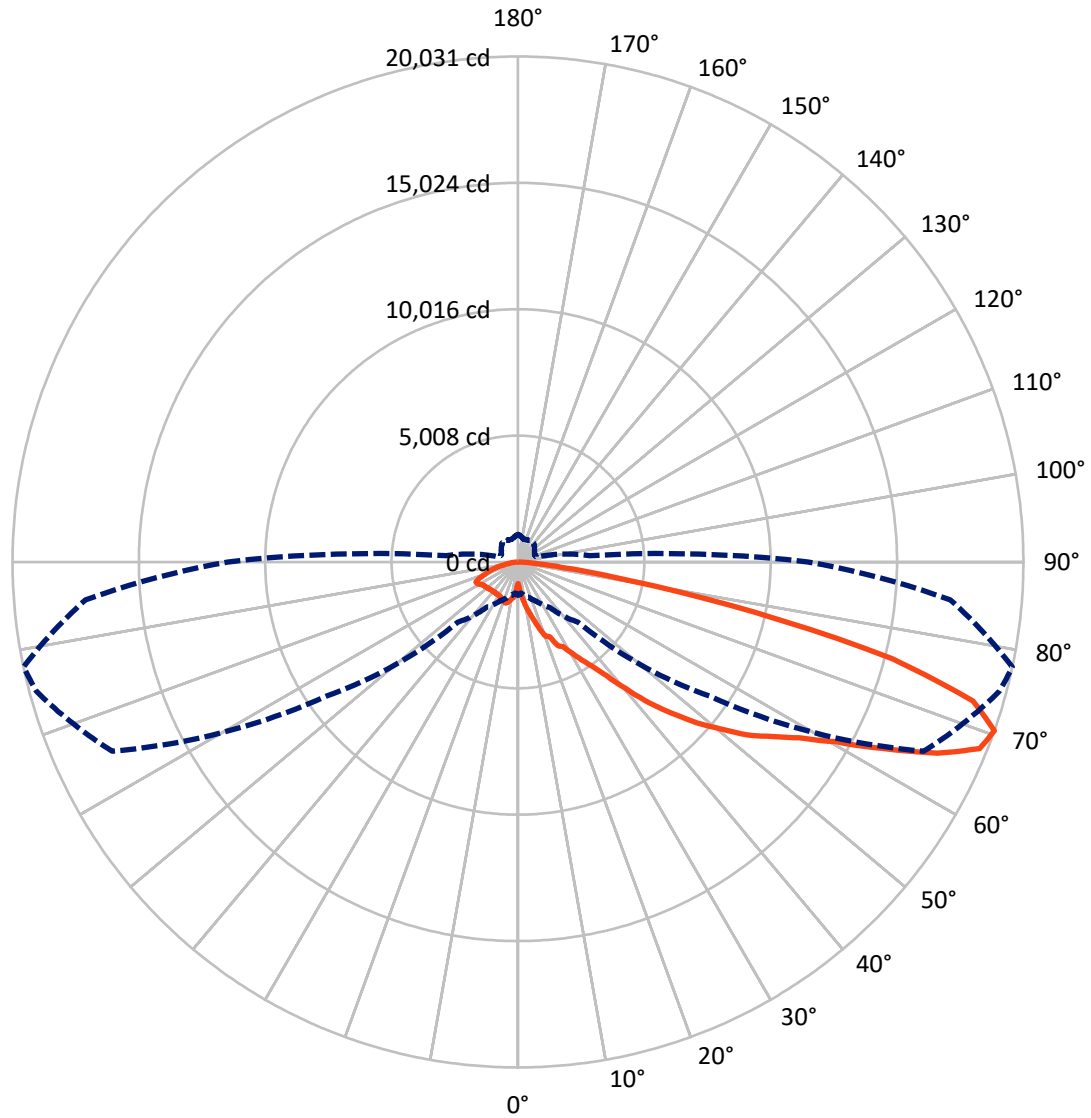
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 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	3721.6	0.0	3721.6
	% Fixture	17.8	0.0	17.8
Street Side	Lumens	17129.4	0.0	17129.4
	% Fixture	82.2	0.0	82.2
Total	Lumens	20851.0	0.0	20851.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.4	0.6
10°-20°	578.8	2.8
20°-30°	1114.2	5.3
30°-40°	1876.6	9.0
40°-50°	3247.1	15.6
50°-60°	4902.7	23.5
60°-70°	5430.3	26.0
70°-80°	3130.8	15.0
80°-90°	439.1	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°	20851.0	100.0
0°-180°	20851.0	100.0

Coefficient of Utilization



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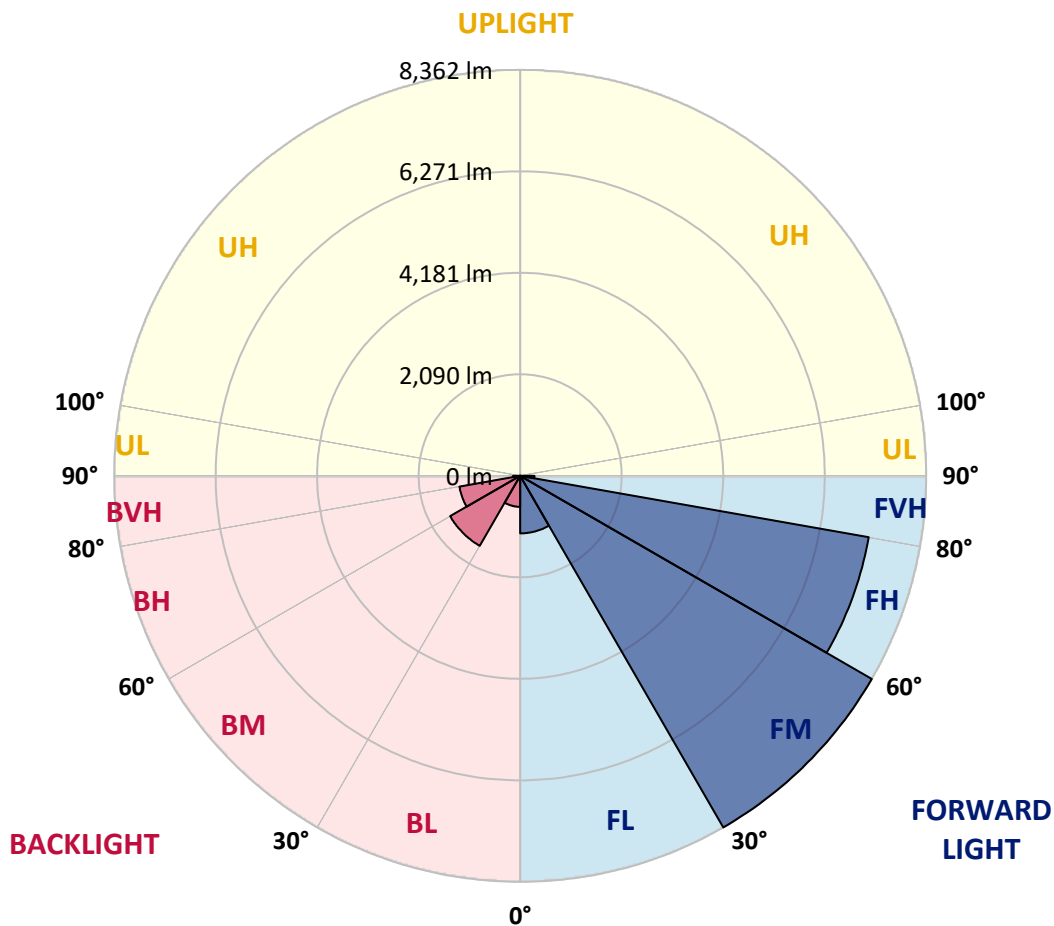
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1185.3	5.7			
FM (30°-60°)	8361.9	40.1			
FH (60°-80°)	7289.3	35.0			G3/7500
FVH (80°-90°)	292.9	1.4			G3/500
BL (0°-30°)	639.0	3.1	B2/1000		
BM (30°-60°)	1664.5	8.0	B2/2500		
BH (60°-80°)	1271.9	6.1	B3/2500		G3/2500
BVH (80°-90°)	146.2	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	850.1	850.1	850.1	850.1	850.1	850.1	850.1	850.1	850.1	850.1	850.1
2.5°	1094.4	1055.2	996.1	1020.5	1050.0	1053.5	1043.9	990.1	971.8	1012.7	1024.8
5°	1533.3	1467.3	1427.3	1414.2	1369.9	1277.8	1343.8	1309.9	1316.9	1296.9	1336.0
7.5°	1902.7	1858.4	1799.3	1782.8	1681.1	1608.9	1654.1	1639.4	1568.1	1540.3	1584.6
10°	2090.5	2041.8	2044.4	2008.8	1981.8	1988.8	1966.2	1901.0	1848.0	1810.6	1703.7
12.5°	2203.5	2215.7	2280.9	2262.6	2364.3	2447.7	2384.3	2287.8	2120.0	2086.1	1980.1
15°	2472.1	2517.3	2456.4	2484.3	2527.7	2687.7	2661.6	2640.7	2463.4	2397.3	2201.8
17.5°	2748.5	2757.2	2665.1	2650.3	2754.6	2835.4	2937.1	2819.8	2841.5	2795.4	2479.0
20°	2807.6	2867.6	2735.5	2644.2	2858.9	3018.8	3144.9	3020.6	3135.3	3147.5	2707.6
22.5°	3024.0	2951.9	2778.1	2688.5	2876.3	3072.7	3277.9	3347.4	3310.9	3208.3	2928.4
25°	3174.4	3136.2	2958.9	2859.8	2931.0	3111.8	3471.7	3653.4	3685.5	3671.6	3138.8
27.5°	3453.4	3472.6	3107.5	3135.3	3036.2	3052.7	3588.2	4059.3	3858.5	3802.9	3399.5
30°	3894.1	3809.0	3399.5	3422.1	3257.9	3230.1	3834.2	4409.6	4229.7	4162.7	3614.2
32.5°	4354.0	4361.8	3864.6	3671.6	3583.8	3556.0	3785.5	4593.0	4699.0	4612.1	3938.5
35°	5002.4	4957.2	4368.7	4114.9	3797.7	3749.0	4132.3	5125.0	5319.7	5076.3	4323.5
37.5°	5989.8	5853.4	5168.4	4581.7	4347.0	4291.4	4627.8	5602.2	6040.3	5737.8	4952.9
40°	6782.6	6505.3	5882.9	5168.4	4771.2	4839.9	4979.8	6181.1	6787.8	6617.4	5535.2
42.5°	7414.5	7168.5	6388.8	5886.4	5346.6	5261.4	5414.4	6898.2	7804.8	7637.9	6261.9
45°	8020.4	7519.7	6957.3	6505.3	5986.4	6089.8	6067.2	7630.1	9052.1	8538.4	6904.3
47.5°	8618.4	8148.1	7559.7	6952.1	6429.7	7073.8	6833.0	8174.2	9893.6	9512.8	7580.5
50°	9386.8	8869.6	8199.4	7588.4	7275.4	7746.6	7342.4	8634.9	10835.8	10389.0	8218.5
52.5°	9897.0	9393.7	8806.1	8369.8	8341.1	8159.4	8056.0	9218.2	11661.6	11390.4	8894.8
55°	9837.1	9352.0	9086.0	9133.8	9488.5	8875.7	8791.4	10081.3	12523.0	12209.2	9625.0
57.5°	9085.2	8555.8	8612.3	8895.7	9848.4	10133.5	9990.0	11003.6	13291.4	13148.8	10528.1
60°	7077.3	6805.2	7265.0	7783.1	9366.8	10502.0	11510.3	12128.3	14237.1	14464.8	11946.7
62.5°	4597.3	4234.0	4960.7	5840.3	7930.0	10258.6	13058.4	14261.4	15786.0	16303.2	14102.4
65°	2381.7	2323.4	2831.9	3640.3	5520.5	8747.0	13604.3	16498.8	17668.8	18271.2	16161.6
67.5°	1731.5	1623.7	1859.3	2334.7	3370.0	5964.6	12569.9	18210.3	19180.4	19732.3	17358.5
70°	1318.6	1238.6	1418.6	1713.2	2200.9	3369.1	9279.0	17743.5	19763.6	20031.4	17199.4
72.5°	987.4	918.8	1076.1	1350.8	1695.9	1896.7	5484.8	14589.1	18768.4	18859.6	15436.6
75°	788.4	735.4	803.2	1066.5	1382.1	1290.8	2913.7	10569.8	15248.9	15327.1	11791.1
77.5°	646.7	601.5	629.3	799.7	1075.2	970.9	1445.5	6723.5	9681.5	9561.5	6633.9
80°	527.6	488.5	501.5	578.0	818.8	724.9	811.9	3507.3	4618.2	4432.2	2758.9
82.5°	405.9	372.9	399.0	425.1	592.8	520.7	473.7	1595.9	1891.4	1761.9	1011.8
85°	272.1	241.6	346.8	319.0	387.7	319.9	259.0	635.4	704.9	657.1	355.5
87.5°	74.8	70.4	116.5	159.1	159.1	120.8	94.7	153.9	196.4	172.1	83.4
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°	850.1	850.1	850.1	850.1	850.1	850.1	850.1	850.1	850.1	850.1	850.1
2.5°	1030.0	1010.9	960.5	956.2	968.3	970.1	962.2	944.0	934.4	986.6	978.8
5°	1326.4	1258.6	1217.8	1180.4	1128.3	1090.9	1100.4	1126.5	1135.2	1174.3	1178.7
7.5°	1556.8	1467.3	1377.7	1257.8	1178.7	1128.3	1166.5	1194.3	1216.0	1271.7	1294.3
10°	1656.7	1559.4	1432.5	1306.4	1284.7	1293.4	1271.7	1278.6	1312.5	1315.1	1326.4
12.5°	1842.8	1732.4	1503.8	1389.9	1383.8	1402.1	1394.2	1426.4	1449.9	1513.3	1486.4
15°	2021.0	1880.1	1557.7	1441.2	1416.0	1452.5	1495.1	1549.0	1599.4	1659.4	1628.9
17.5°	2237.4	2025.3	1560.3	1417.7	1422.1	1500.3	1544.6	1574.2	1724.5	1807.1	1765.4
20°	2373.9	2040.1	1502.0	1359.5	1422.1	1492.5	1554.2	1586.3	1755.0	1879.3	1908.0
22.5°	2497.3	2045.3	1456.8	1328.2	1368.2	1461.2	1554.2	1625.5	1733.2	1852.3	1856.7
25°	2565.1	2040.9	1398.6	1330.8	1367.3	1413.4	1495.9	1561.1	1641.1	1807.1	1811.5
27.5°	2738.9	1984.4	1341.2	1341.2	1360.3	1362.1	1467.3	1505.5	1516.8	1668.0	1695.0
30°	2789.4	1996.6	1334.3	1339.5	1349.0	1331.7	1377.7	1402.9	1419.4	1549.8	1554.2
32.5°	2870.2	1899.3	1355.1	1323.8	1311.7	1309.1	1320.4	1343.0	1349.9	1429.9	1444.7
35°	2968.4	1860.1	1362.1	1319.5	1295.1	1282.1	1316.0	1288.2	1309.9	1403.8	1414.2
37.5°	3288.3	1806.3	1397.7	1319.5	1288.2	1273.4	1256.9	1269.9	1347.3	1437.7	1493.3
40°	3492.6	1822.8	1389.0	1332.5	1264.7	1250.8	1223.0	1270.8	1390.8	1550.7	1592.4
42.5°	3850.7	1832.3	1399.5	1326.4	1272.5	1218.7	1236.9	1289.1	1415.1	1506.4	1570.7
45°	4221.0	1861.9	1392.5	1308.2	1255.2	1280.4	1255.2	1302.1	1362.1	1364.7	1413.4
47.5°	4584.3	1981.0	1377.7	1270.8	1250.8	1316.9	1252.6	1260.4	1264.7	1280.4	1337.7
50°	5011.1	2107.9	1356.9	1218.7	1256.9	1318.6	1262.1	1223.9	1219.5	1270.8	1335.1
52.5°	5496.1	2251.3	1329.9	1168.2	1221.3	1302.1	1295.1	1226.5	1189.1	1238.6	1303.0
55°	6067.2	2414.7	1298.6	1117.8	1182.1	1303.8	1313.4	1208.2	1190.0	1243.9	1312.5
57.5°	6826.0	2651.1	1237.8	1044.8	1134.3	1276.9	1266.5	1187.4	1170.0	1227.3	1298.6
60°	8121.2	3105.8	1150.9	972.7	1083.1	1210.8	1228.2	1150.0	1132.6	1196.1	1270.8
62.5°	9855.3	3652.5	1045.7	902.3	1020.5	1139.6	1180.4	1096.1	1094.4	1175.2	1253.4
65°	11469.5	3962.8	937.0	837.9	956.2	1073.5	1126.5	1045.7	1049.2	1150.9	1229.1
67.5°	12140.5	3597.7	839.7	780.6	882.3	997.9	1082.2	1006.6	995.3	1117.8	1190.0
70°	11510.3	2858.0	755.4	719.7	798.8	916.2	1020.5	954.4	928.3	1039.6	1096.1
72.5°	10184.7	2382.6	676.3	648.4	725.8	830.1	937.0	884.0	850.1	935.3	985.7
75°	7961.3	1954.9	585.9	578.0	642.4	751.9	850.1	813.6	770.1	824.0	874.4
77.5°	4533.0	1236.9	492.0	497.2	543.3	658.9	745.8	717.1	672.8	695.4	753.6
80°	1814.1	624.1	395.5	399.0	438.1	541.5	618.0	607.6	561.5	579.8	619.8
82.5°	678.0	342.5	292.1	293.8	332.9	428.5	527.6	522.4	478.9	465.9	488.5
85°	269.5	169.5	179.1	186.9	224.3	308.6	423.3	375.5	324.2	284.2	298.1
87.5°	64.3	53.9	62.6	66.1	73.0	96.5	154.7	124.3	127.8	102.6	76.5
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)