

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: P368594

Luminaire Tested: **MSA-SA4D-727-U-T2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368594
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-727-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: 21944 lumens
Efficiency: N/A
Efficacy: 84.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B3 - U0 - G4

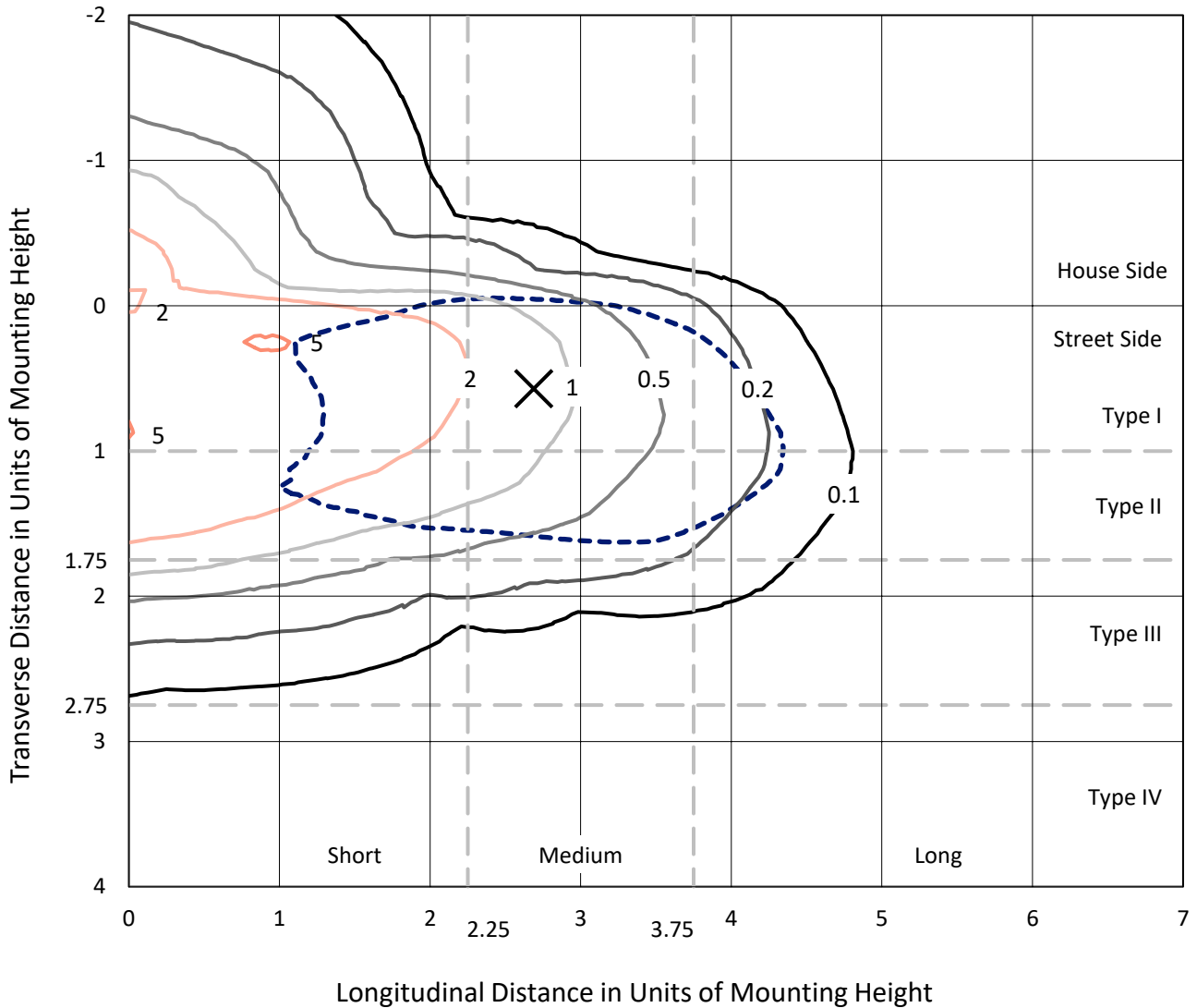
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

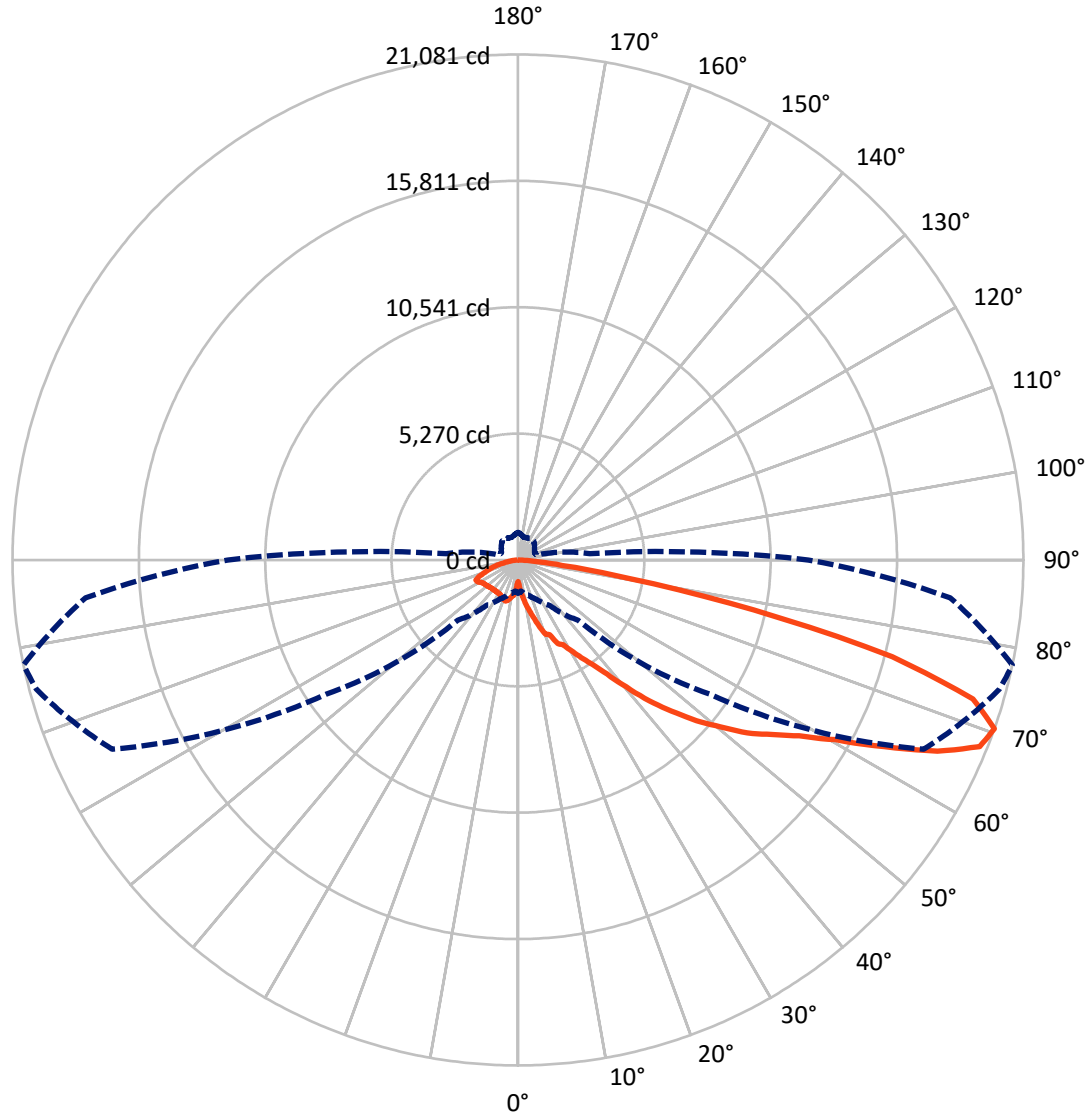
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 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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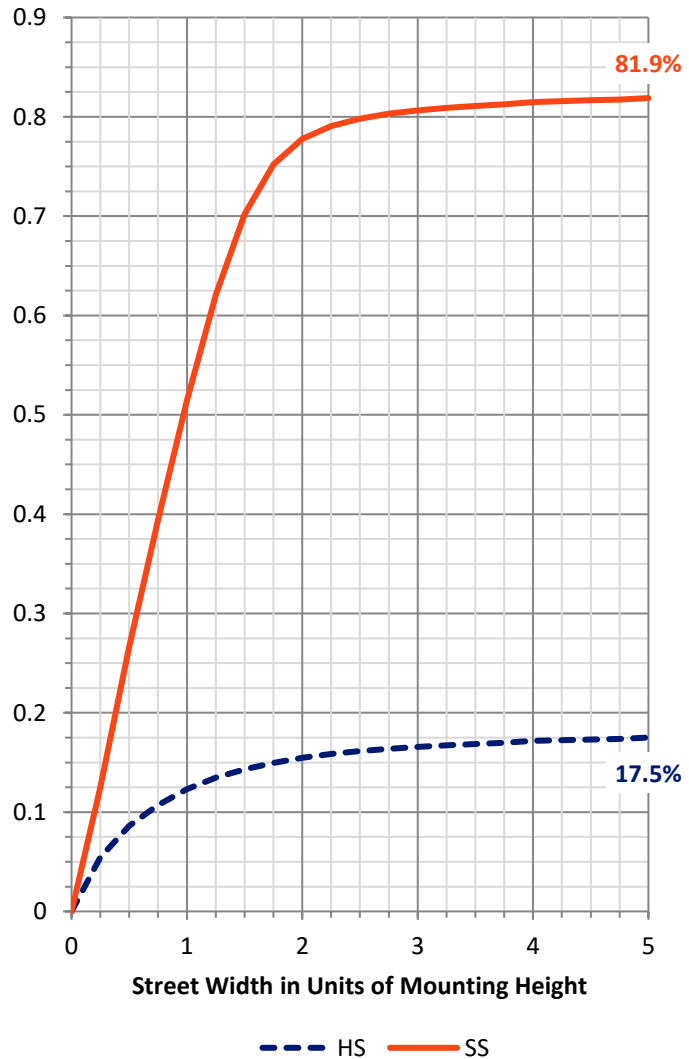
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3916.7	0.0	3916.7
	% Fixture	17.8	0.0	17.8
Street Side	Lumens	18027.3	0.0	18027.3
	% Fixture	82.2	0.0	82.2
Total	Lumens	21944.0	0.0	21944.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.3	0.6
10°-20°	609.2	2.8
20°-30°	1172.6	5.3
30°-40°	1975.0	9.0
40°-50°	3417.3	15.6
50°-60°	5159.7	23.5
60°-70°	5715.0	26.0
70°-80°	3294.9	15.0
80°-90°	462.1	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°	21944.0	100.0
0°-180°	21944.0	100.0

Coefficient of Utilization



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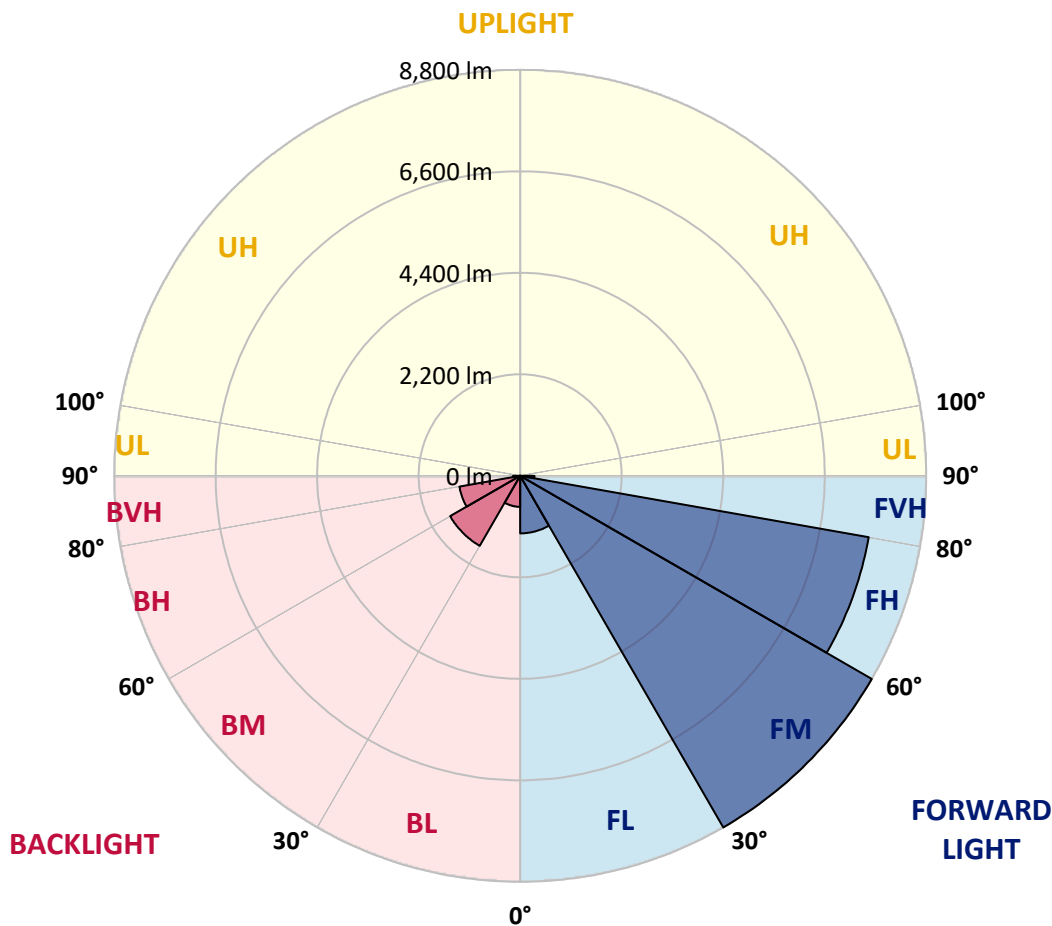
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1247.5	5.7			
FM (30°-60°)	8800.2	40.1			
FH (60°-80°)	7671.4	35.0			G4/12000
FVH (80°-90°)	308.3	1.4			G3/500
BL (0°-30°)	672.5	3.1	B2/1000		
BM (30°-60°)	1751.8	8.0	B2/2500		
BH (60°-80°)	1338.5	6.1	B3/2500		G3/2500
BVH (80°-90°)	153.8	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-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	894.7	894.7	894.7	894.7	894.7	894.7	894.7	894.7	894.7	894.7	894.7
2.5°	1151.7	1110.6	1048.4	1074.0	1105.1	1108.7	1098.7	1041.9	1022.7	1065.7	1078.5
5°	1613.7	1544.2	1502.1	1488.4	1441.7	1344.7	1414.3	1378.6	1385.9	1364.9	1406.0
7.5°	2002.5	1955.8	1893.6	1876.2	1769.2	1693.3	1740.8	1725.3	1650.3	1621.0	1667.7
10°	2200.1	2148.8	2151.6	2114.1	2085.7	2093.0	2069.3	2000.7	1944.8	1905.5	1793.0
12.5°	2319.0	2331.8	2400.4	2381.2	2488.2	2576.1	2509.3	2407.7	2231.2	2195.5	2083.9
15°	2601.7	2649.2	2585.2	2614.5	2660.2	2828.5	2801.1	2779.1	2592.5	2523.0	2317.2
17.5°	2892.6	2901.7	2804.8	2789.2	2899.0	2984.1	3091.1	2967.6	2990.5	2942.0	2609.0
20°	2954.8	3017.9	2878.9	2782.8	3008.8	3177.1	3309.7	3178.9	3299.7	3312.5	2849.6
22.5°	3182.6	3106.6	2923.7	2829.5	3027.0	3233.8	3449.7	3522.9	3484.4	3376.5	3081.9
25°	3340.8	3300.6	3114.0	3009.7	3084.7	3275.0	3653.7	3844.9	3878.7	3864.1	3303.3
27.5°	3634.5	3654.6	3270.4	3299.7	3195.4	3212.8	3776.3	4272.1	4060.8	4002.2	3577.8
30°	4098.3	4008.6	3577.8	3601.5	3428.6	3399.4	4035.1	4640.7	4451.4	4380.9	3803.7
32.5°	4582.2	4590.4	4067.2	3864.1	3771.7	3742.4	3983.9	4833.8	4945.4	4853.9	4144.9
35°	5264.6	5217.1	4597.7	4330.6	3996.7	3945.5	4348.9	5393.6	5598.5	5342.4	4550.2
37.5°	6303.8	6160.2	5439.4	4821.9	4574.9	4516.3	4870.4	5895.8	6356.9	6038.5	5212.5
40°	7138.1	6846.3	6191.3	5439.4	5021.3	5093.6	5240.8	6505.1	7143.6	6964.3	5825.4
42.5°	7803.2	7544.3	6723.7	6195.0	5626.9	5537.2	5698.2	7259.8	8213.9	8038.3	6590.2
45°	8440.8	7913.9	7322.0	6846.3	6300.2	6409.0	6385.3	8030.0	9526.6	8986.0	7266.2
47.5°	9070.2	8575.3	7955.9	7316.5	6766.7	7444.6	7191.2	8602.7	10412.2	10011.5	7977.9
50°	9878.8	9334.5	8629.2	7986.1	7656.8	8152.6	7727.3	9087.5	11403.8	10933.6	8649.4
52.5°	10415.8	9886.2	9267.8	8808.5	8778.3	8587.2	8478.3	9701.4	12272.9	11987.4	9361.1
55°	10352.7	9842.3	9562.3	9612.6	9985.9	9340.9	9252.2	10609.8	13179.4	12849.2	10129.5
57.5°	9561.4	9004.3	9063.8	9362.0	10364.6	10664.6	10513.7	11580.4	13988.1	13838.1	11080.0
60°	7448.2	7161.9	7645.8	8191.1	9857.8	11052.5	12113.7	12764.1	14983.4	15223.1	12572.9
62.5°	4838.3	4456.0	5220.7	6146.5	8345.7	10796.4	13742.9	15009.0	16613.5	17157.8	14841.6
65°	2506.5	2445.2	2980.4	3831.2	5809.8	9205.6	14317.4	17363.7	18595.0	19228.9	17008.7
67.5°	1822.3	1708.8	1956.7	2457.1	3546.6	6277.3	13228.8	19164.9	20185.8	20766.7	18268.4
70°	1387.7	1303.6	1492.9	1803.1	2316.3	3545.7	9765.4	18673.7	20799.6	21081.4	18101.0
72.5°	1039.2	966.9	1132.5	1421.6	1784.8	1996.1	5772.3	15353.9	19752.2	19848.2	16245.8
75°	829.7	773.9	845.3	1122.5	1454.5	1358.5	3066.4	11123.9	16048.2	16130.5	12409.2
77.5°	680.6	633.0	662.3	841.6	1131.6	1021.8	1521.3	7075.9	10189.0	10062.7	6981.7
80°	555.3	514.1	527.8	608.3	861.7	762.9	854.4	3691.2	4860.3	4664.5	2903.6
82.5°	427.2	392.4	419.9	447.3	623.9	548.0	498.6	1679.6	1990.6	1854.3	1064.8
85°	286.3	254.3	365.0	335.7	408.0	336.6	272.6	668.7	741.9	691.6	374.2
87.5°	78.7	74.1	122.6	167.4	167.4	127.2	99.7	161.9	206.7	181.1	87.8
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°	894.7	894.7	894.7	894.7	894.7	894.7	894.7	894.7	894.7	894.7	894.7
2.5°	1084.0	1063.9	1010.8	1006.3	1019.1	1020.9	1012.7	993.5	983.4	1038.3	1030.1
5°	1396.0	1324.6	1281.6	1242.3	1187.4	1148.1	1158.1	1185.6	1194.7	1235.9	1240.5
7.5°	1638.4	1544.2	1449.9	1323.7	1240.5	1187.4	1227.7	1256.9	1279.8	1338.3	1362.1
10°	1743.6	1641.1	1507.6	1374.9	1352.1	1361.2	1338.3	1345.7	1381.3	1384.1	1396.0
12.5°	1939.4	1823.2	1582.6	1462.8	1456.3	1475.6	1467.3	1501.2	1525.9	1592.7	1564.3
15°	2126.9	1978.7	1639.3	1516.7	1490.2	1528.6	1573.4	1630.2	1683.2	1746.3	1714.3
17.5°	2354.7	2131.5	1642.1	1492.0	1496.6	1578.9	1625.6	1656.7	1814.9	1901.9	1857.9
20°	2498.3	2147.0	1580.8	1430.7	1496.6	1570.7	1635.6	1669.5	1847.0	1977.8	2008.0
22.5°	2628.2	2152.5	1533.2	1397.8	1439.9	1537.8	1635.6	1710.7	1824.1	1949.4	1954.0
25°	2699.6	2147.9	1471.9	1400.5	1439.0	1487.5	1574.4	1643.0	1727.1	1901.9	1906.4
27.5°	2882.5	2088.5	1411.5	1411.5	1431.6	1433.5	1544.2	1584.4	1596.3	1755.5	1783.8
30°	2935.6	2101.3	1404.2	1409.7	1419.8	1401.5	1449.9	1476.5	1493.9	1631.1	1635.6
32.5°	3020.6	1998.8	1426.2	1393.2	1380.4	1377.7	1389.6	1413.4	1420.7	1504.8	1520.4
35°	3124.0	1957.7	1433.5	1388.7	1363.0	1349.3	1385.0	1355.7	1378.6	1477.4	1488.4
37.5°	3460.7	1900.9	1471.0	1388.7	1355.7	1340.2	1322.8	1336.5	1417.9	1513.1	1571.6
40°	3675.6	1918.3	1461.8	1402.4	1331.0	1316.4	1287.1	1337.4	1463.7	1632.0	1675.9
42.5°	4052.5	1928.4	1472.8	1396.0	1339.3	1282.5	1301.7	1356.6	1489.3	1585.3	1653.0
45°	4442.2	1959.5	1465.5	1376.8	1321.0	1347.5	1321.0	1370.4	1433.5	1436.2	1487.5
47.5°	4824.6	2084.8	1449.9	1337.4	1316.4	1385.9	1318.2	1326.4	1331.0	1347.5	1407.9
50°	5273.8	2218.4	1428.0	1282.5	1322.8	1387.7	1328.3	1288.0	1283.5	1337.4	1405.1
52.5°	5784.2	2369.3	1399.6	1229.5	1285.3	1370.4	1363.0	1290.8	1251.4	1303.6	1371.3
55°	6385.3	2541.3	1366.7	1176.4	1244.1	1372.2	1382.3	1271.6	1252.4	1309.1	1381.3
57.5°	7183.9	2790.1	1302.7	1099.6	1193.8	1343.8	1332.9	1249.6	1231.3	1291.7	1366.7
60°	8546.9	3268.6	1211.2	1023.7	1139.8	1274.3	1292.6	1210.3	1192.0	1258.8	1337.4
62.5°	10371.9	3844.0	1100.5	949.6	1074.0	1199.3	1242.3	1153.6	1151.7	1236.8	1319.1
65°	12070.7	4170.5	986.1	881.9	1006.3	1129.8	1185.6	1100.5	1104.2	1211.2	1293.5
67.5°	12776.9	3786.3	883.7	821.5	928.5	1050.2	1138.9	1059.3	1047.4	1176.4	1252.4
70°	12113.7	3007.8	795.0	757.4	840.7	964.2	1074.0	1004.4	977.0	1094.1	1153.6
72.5°	10718.6	2507.4	711.7	682.4	763.9	873.6	986.1	930.3	894.7	984.3	1037.4
75°	8378.6	2057.4	616.6	608.3	676.0	791.3	894.7	856.2	810.5	867.2	920.3
77.5°	4770.6	1301.7	517.8	523.3	571.7	693.4	784.9	754.7	708.0	731.8	793.1
80°	1909.2	656.8	416.2	419.9	461.1	569.9	650.4	639.4	591.0	610.2	652.2
82.5°	713.5	360.4	307.4	309.2	350.4	451.0	555.3	549.8	504.1	490.3	514.1
85°	283.6	178.4	188.4	196.7	236.0	324.8	445.5	395.2	341.2	299.1	313.8
87.5°	67.7	56.7	65.9	69.5	76.8	101.5	162.8	130.8	134.5	107.9	80.5
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)