

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: P368598

Luminaire Tested: **MSA-SA4D-727-U-T4FT**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368598
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-727-U-T4FT
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22052 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G4

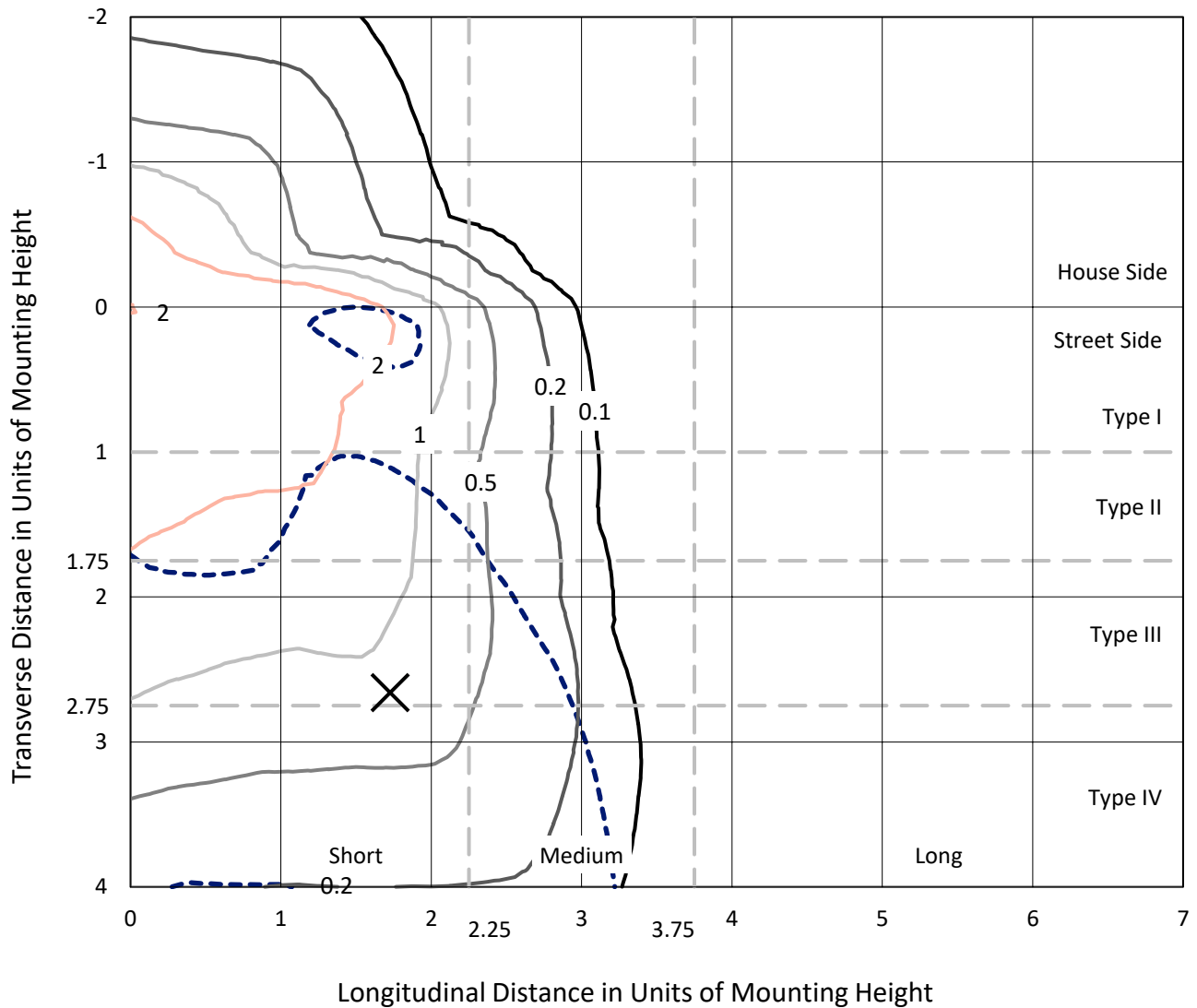
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

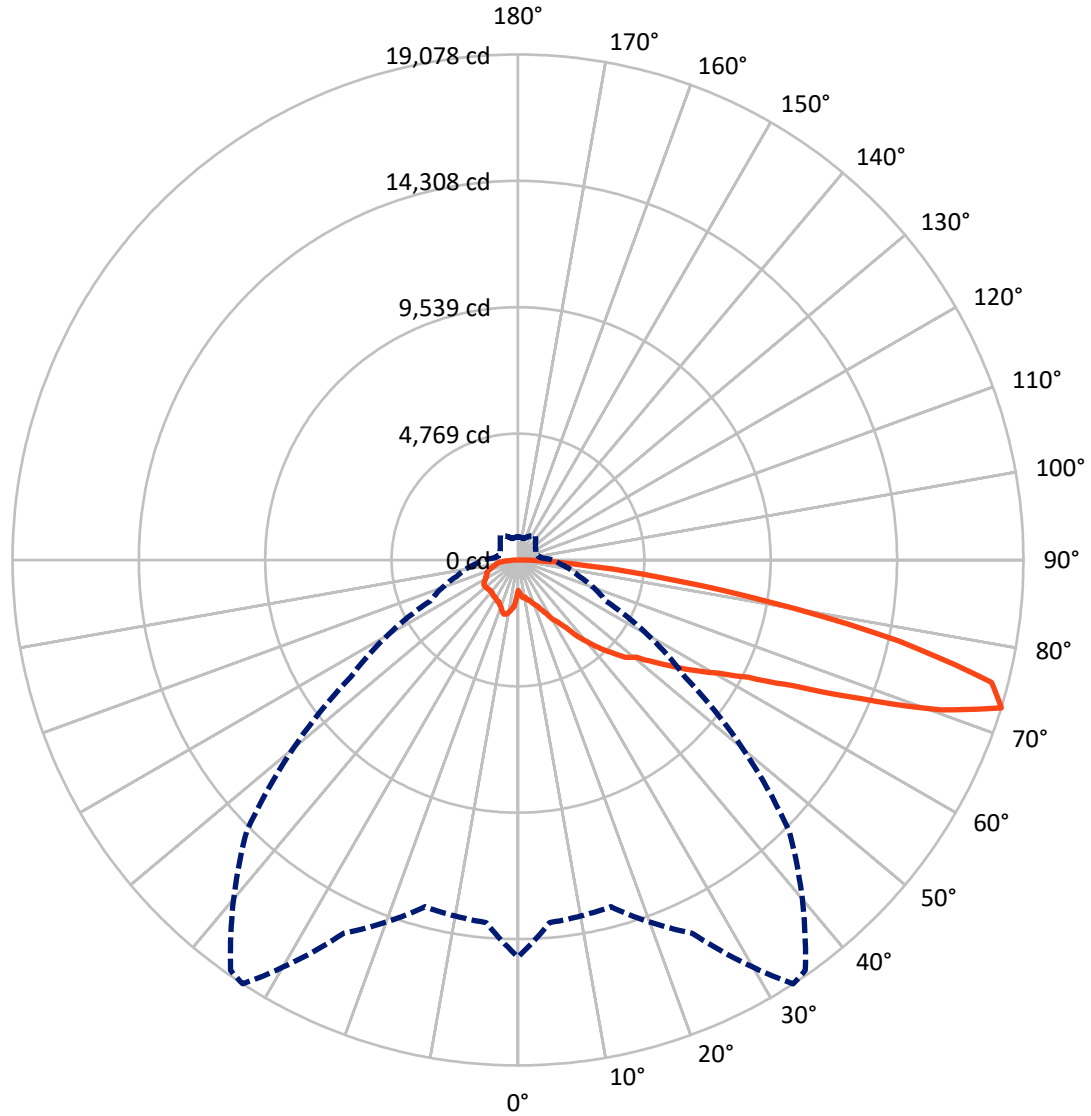
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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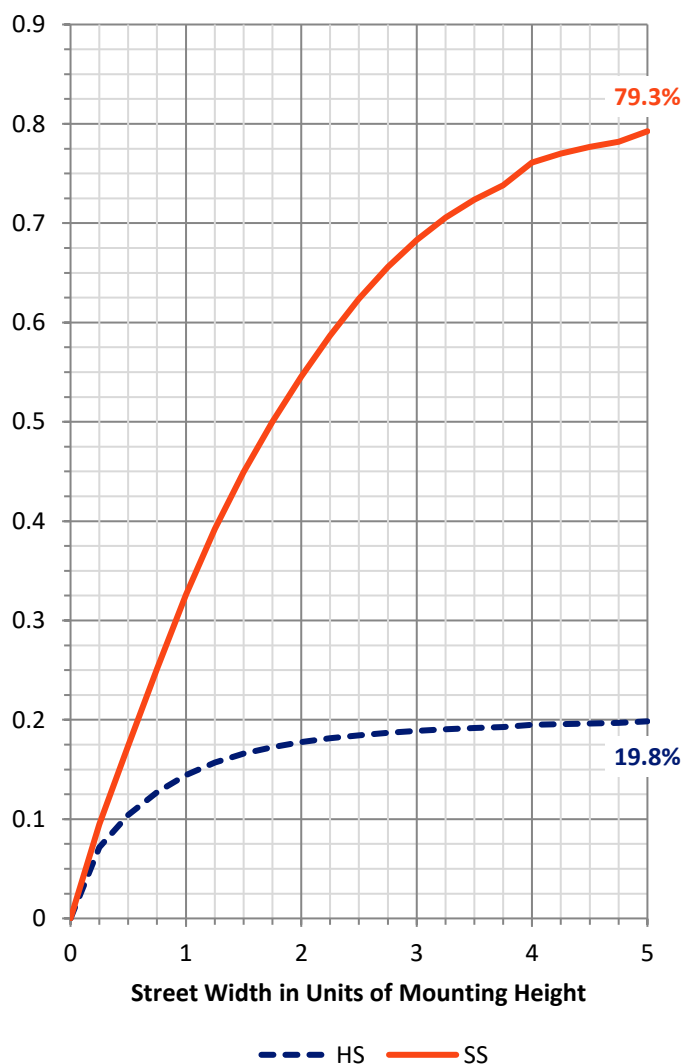
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4461.1	0.0	4461.1
	% Fixture	20.2	0.0	20.2
Street Side	Lumens	17590.9	0.0	17590.9
	% Fixture	79.8	0.0	79.8
Total	Lumens	22052.0	0.0	22052.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.0	0.7
10°-20°	587.6	2.7
20°-30°	1071.4	4.9
30°-40°	1812.6	8.2
40°-50°	3015.5	13.7
50°-60°	4425.5	20.1
60°-70°	5661.2	25.7
70°-80°	4605.9	20.9
80°-90°	713.4	3.2
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°	22052.0	100.0
0°-180°	22052.0	100.0

Coefficient of Utilization



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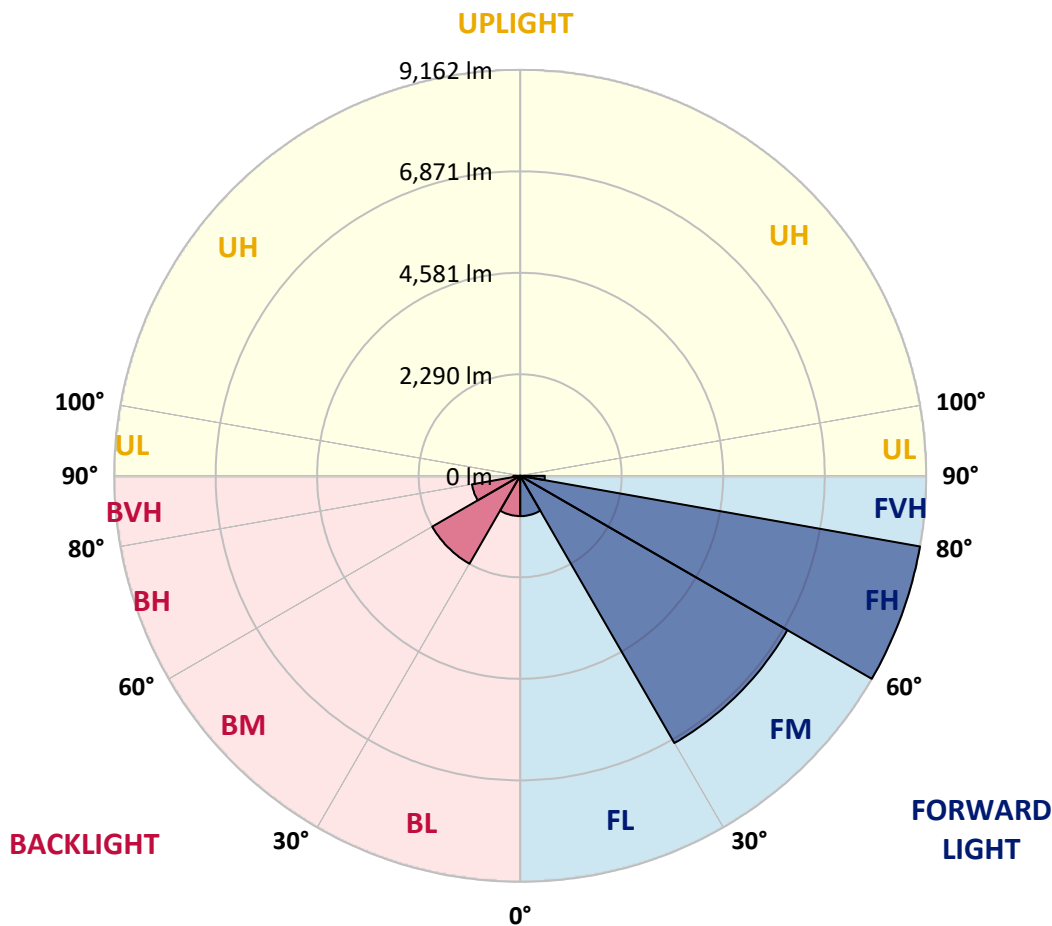
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	910.1	4.1			
FM (30°-60°)	6962.3	31.6			
FH (60°-80°)	9161.8	41.5			G4/12000
FVH (80°-90°)	556.8	2.5			G4/750
BL (0°-30°)	907.9	4.1	B2/1000		
BM (30°-60°)	2291.2	10.4	B2/2500		
BH (60°-80°)	1105.4	5.0	B3/2500		G3/2500
BVH (80°-90°)	156.6	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3
2.5°	1310.9	1269.8	1202.1	1200.2	1237.7	1246.0	1270.7	1272.5	1281.7	1267.0	1371.3
5°	1446.3	1402.4	1375.9	1385.0	1367.6	1388.7	1388.7	1449.1	1529.6	1622.9	1755.5
7.5°	1478.3	1446.3	1416.1	1439.0	1442.7	1422.5	1441.7	1583.5	1729.0	1822.3	2034.5
10°	1414.3	1382.3	1405.1	1412.5	1411.6	1457.3	1557.0	1670.4	1832.4	2004.4	2118.7
12.5°	1402.4	1425.3	1436.3	1449.1	1536.0	1549.7	1700.6	1817.7	1980.6	2131.5	2428.8
15°	1579.0	1609.2	1541.5	1536.9	1565.2	1578.0	1734.5	1852.5	2090.3	2343.7	2610.9
17.5°	1830.5	1841.5	1719.8	1657.6	1678.7	1688.7	1757.4	1905.6	2051.9	2520.3	2853.3
20°	2073.9	2081.2	1852.5	1713.4	1787.5	1798.5	1862.6	1947.6	2062.9	2619.1	3017.0
22.5°	2329.1	2282.5	2031.8	1856.2	1899.1	1901.9	1939.4	1986.1	2149.8	2603.6	3216.5
25°	2608.1	2578.9	2263.2	2094.9	2093.1	2055.6	2057.4	2124.2	2242.2	2770.0	3347.3
27.5°	2978.6	2982.3	2524.0	2433.4	2291.6	2266.9	2143.4	2267.8	2402.3	2771.9	3630.0
30°	3458.9	3370.2	2887.1	2740.8	2600.8	2548.7	2381.3	2487.4	2545.9	2930.1	3937.3
32.5°	3849.5	3823.9	3265.9	3044.5	2815.8	2876.2	2691.4	2598.1	2703.3	3202.8	4403.0
35°	4223.7	4139.5	3666.6	3378.4	3137.8	3101.2	2981.4	2996.9	3061.0	3547.6	5011.3
37.5°	4781.7	4736.0	4233.7	3772.7	3660.2	3511.0	3435.1	3483.6	3433.3	3989.5	5923.4
40°	5405.6	5140.3	4707.6	4296.9	4086.5	3981.3	4007.8	3962.0	3923.6	4485.3	6741.2
42.5°	6003.0	5761.5	5022.3	4837.5	4563.1	4607.0	4461.5	4493.6	4602.4	5188.8	7497.8
45°	6653.4	6131.1	5356.2	5193.4	4996.7	5052.5	5168.7	5133.9	5312.3	6018.5	8210.4
47.5°	6978.2	6481.4	5766.1	5500.8	5498.0	5381.8	6089.0	6165.8	5886.8	6633.3	8934.0
50°	7291.0	6802.5	6070.7	5891.4	5761.5	6010.3	6971.8	6795.2	6406.4	7338.6	9729.9
52.5°	7726.5	7169.4	6420.1	6228.9	6390.0	6620.5	7676.2	7641.4	6916.0	8064.1	10421.5
55°	8058.6	7496.0	6946.2	6768.7	7076.1	7302.0	8393.4	8183.9	7352.3	8596.5	10859.7
57.5°	8640.4	8063.1	7722.8	7328.6	7881.1	7877.4	9085.0	8923.1	7818.9	9033.8	11036.3
60°	9565.3	8887.4	8531.5	8076.9	8668.7	8880.1	9875.4	9408.8	8149.1	9310.0	10717.9
62.5°	10863.4	10058.3	9481.1	9031.0	9752.8	10135.2	10851.5	9762.9	8170.2	9231.4	9880.9
65°	12468.9	11490.0	10733.5	10257.8	11448.9	11995.0	12031.6	9981.5	7976.2	8418.1	8120.8
67.5°	14035.0	12934.5	12145.0	12235.6	13974.7	14233.5	13310.5	10164.5	6934.3	6759.5	5638.9
70°	15066.0	13873.1	13347.1	14307.6	16949.6	16684.3	14347.0	9682.4	5460.5	4381.9	3175.3
72.5°	14988.3	13739.5	13550.2	15539.0	19077.5	18911.9	14473.2	7700.0	3657.4	2395.9	1583.5
75°	12210.9	11240.3	11670.2	14710.2	18464.5	18456.3	12565.8	4766.2	1876.3	1230.4	1000.8
77.5°	6751.3	6374.4	7637.8	11137.8	14701.9	14776.9	8490.4	2161.7	1011.8	871.8	753.8
80°	2364.8	2330.0	3309.8	6010.3	9671.4	9689.7	3948.3	988.9	735.5	659.6	553.5
82.5°	864.5	857.2	1372.2	2792.0	5325.1	5313.2	1497.5	615.7	545.2	466.6	365.0
85°	344.9	337.6	627.6	1239.6	2446.2	2406.9	581.8	349.5	356.8	278.1	179.3
87.5°	95.1	98.8	213.2	387.9	749.2	694.3	146.4	118.0	144.5	113.4	56.7
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°	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3	1156.3
2.5°	1389.6	1398.7	1308.2	1340.2	1381.4	1403.3	1414.3	1367.6	1383.2	1449.1	1446.3
5°	1783.0	1746.4	1711.6	1747.3	1723.5	1689.7	1744.5	1741.8	1777.5	1813.2	1821.4
7.5°	2076.6	2029.1	2012.6	1932.1	1851.6	1770.2	1840.6	1884.5	1893.7	1982.4	2019.9
10°	2182.7	2164.4	2170.8	2064.7	2054.7	2062.9	1997.9	1927.5	1970.5	1933.9	1961.4
12.5°	2427.9	2473.6	2360.2	2287.9	2281.5	2231.2	2101.3	2055.6	2007.1	2057.4	2031.8
15°	2624.6	2709.7	2588.0	2460.8	2317.2	2239.5	2128.8	2059.2	2027.2	2038.2	2007.1
17.5°	2912.8	2992.3	2683.1	2488.3	2340.1	2225.7	2056.5	1908.3	1987.0	1993.4	1957.7
20°	3104.0	3109.4	2715.2	2420.6	2287.0	2088.5	1923.8	1793.9	1884.5	1976.9	2017.2
22.5°	3290.6	3249.4	2754.5	2366.6	2094.0	1901.9	1821.4	1813.2	1880.9	1958.6	1967.8
25°	3430.5	3436.9	2777.4	2346.5	1980.6	1718.9	1718.9	1778.4	1837.9	2022.6	2013.5
27.5°	3769.9	3520.2	2688.6	2254.1	1823.2	1611.9	1719.8	1799.4	1827.8	2028.1	2048.3
30°	4016.9	3854.1	2706.9	2095.8	1664.0	1561.6	1650.3	1750.0	1828.7	2060.2	2052.8
32.5°	4431.3	3993.1	2749.9	1873.5	1545.1	1542.4	1621.0	1726.2	1820.5	2025.4	2036.4
35°	4889.7	4403.0	2630.1	1704.3	1516.8	1531.4	1632.9	1675.0	1785.7	2011.7	2021.7
37.5°	5737.7	4617.1	2554.2	1573.5	1498.5	1540.5	1579.0	1643.9	1755.5	1943.1	2008.9
40°	6235.4	5058.0	2272.4	1497.5	1460.0	1533.2	1552.4	1607.3	1667.7	1860.7	1902.8
42.5°	6890.4	5197.0	2031.8	1413.4	1440.8	1503.0	1560.7	1574.4	1614.6	1730.8	1807.7
45°	7436.5	5301.3	1776.6	1345.7	1375.9	1569.8	1573.5	1567.1	1559.8	1602.7	1665.9
47.5°	8001.9	5581.3	1541.5	1270.7	1351.2	1624.7	1579.9	1521.3	1491.1	1496.6	1555.2
50°	8625.8	5784.3	1375.0	1209.4	1356.7	1624.7	1611.0	1474.7	1414.3	1398.7	1460.0
52.5°	9174.6	5808.1	1248.7	1160.0	1333.8	1568.9	1632.0	1445.4	1343.9	1306.4	1364.0
55°	9473.8	5507.2	1157.2	1115.2	1275.2	1518.6	1621.0	1428.9	1258.8	1230.4	1281.7
57.5°	9467.4	5007.7	1079.5	1052.9	1208.5	1448.1	1559.8	1339.3	1206.6	1190.2	1240.5
60°	9126.2	4422.2	1020.0	1001.7	1139.9	1345.7	1450.0	1280.7	1156.3	1148.1	1203.0
62.5°	8352.2	3817.5	962.4	947.7	1075.8	1273.4	1397.8	1215.8	1104.2	1103.3	1155.4
65°	6840.0	3064.6	908.4	904.7	1016.4	1202.1	1348.4	1160.9	1050.2	1068.5	1121.6
67.5°	4713.1	2153.5	850.8	861.8	961.5	1133.5	1310.9	1124.3	993.5	1031.0	1078.6
70°	2586.2	1332.0	786.7	808.7	891.9	1053.9	1252.4	1064.8	919.4	977.0	1010.0
72.5°	1315.5	888.3	707.1	741.9	806.9	936.8	1142.6	978.8	839.8	861.8	879.1
75°	883.7	668.7	618.4	656.8	703.5	825.2	1013.6	898.3	763.9	761.1	780.3
77.5°	667.8	522.4	525.1	569.0	599.2	725.4	911.2	830.6	699.8	693.4	721.8
80°	488.5	396.1	422.6	468.4	495.8	651.3	844.4	755.6	612.9	587.3	611.1
82.5°	323.8	280.8	312.9	358.6	380.6	544.3	766.6	641.3	499.5	434.5	438.2
85°	152.8	147.3	186.6	208.6	236.9	337.6	573.6	443.7	318.4	263.5	275.4
87.5°	34.8	46.7	61.3	60.4	70.4	90.6	178.4	124.4	92.4	63.1	42.1
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)