

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: P368356

Luminaire Tested: **MSA-SA4B-730-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368356  
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-SA4B-730-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: 17735 lumens  
Efficiency: N/A  
Efficacy: 103.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3

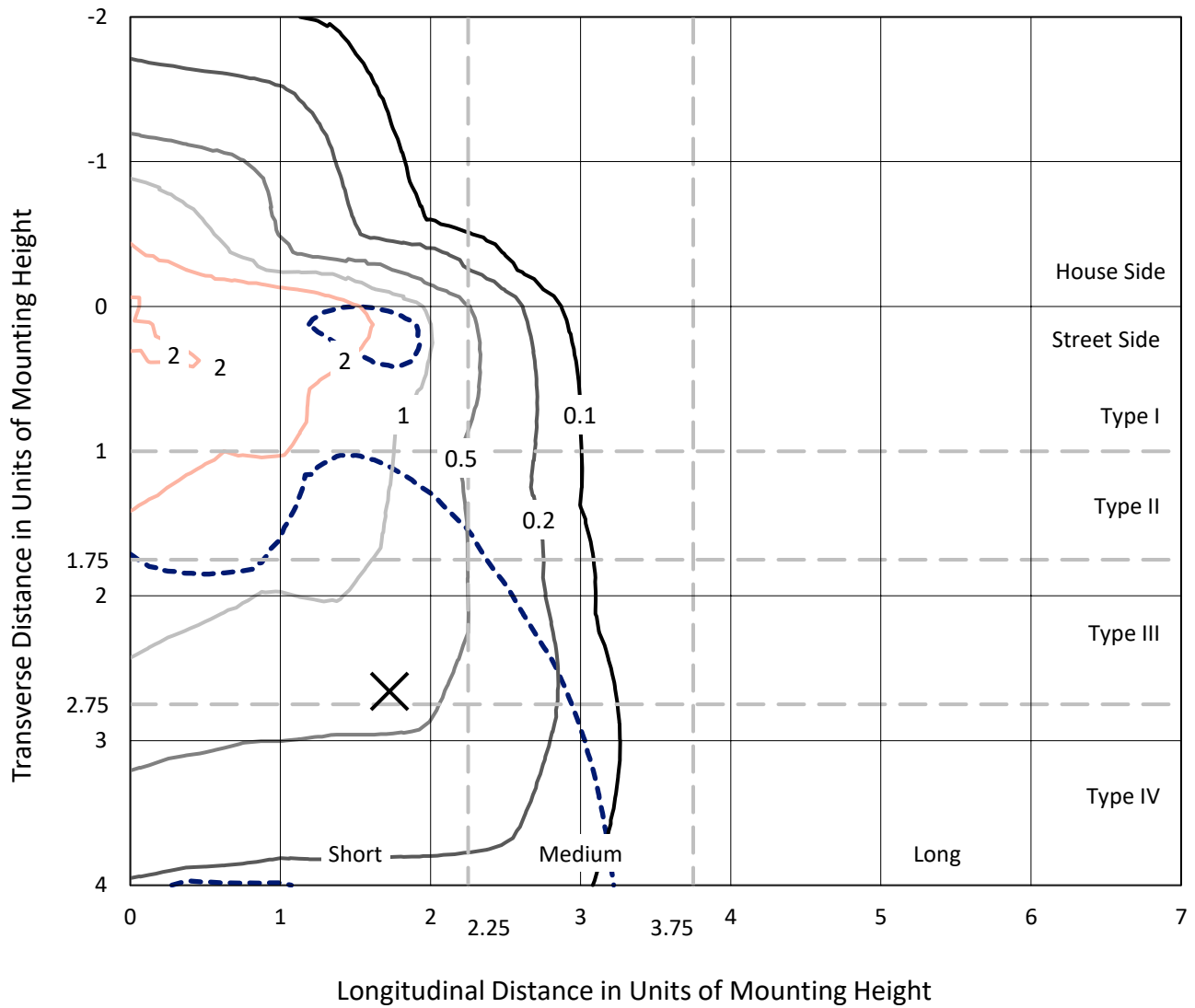
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P368356  
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### Iso-Footcandle Lines of Horizontal Illumination

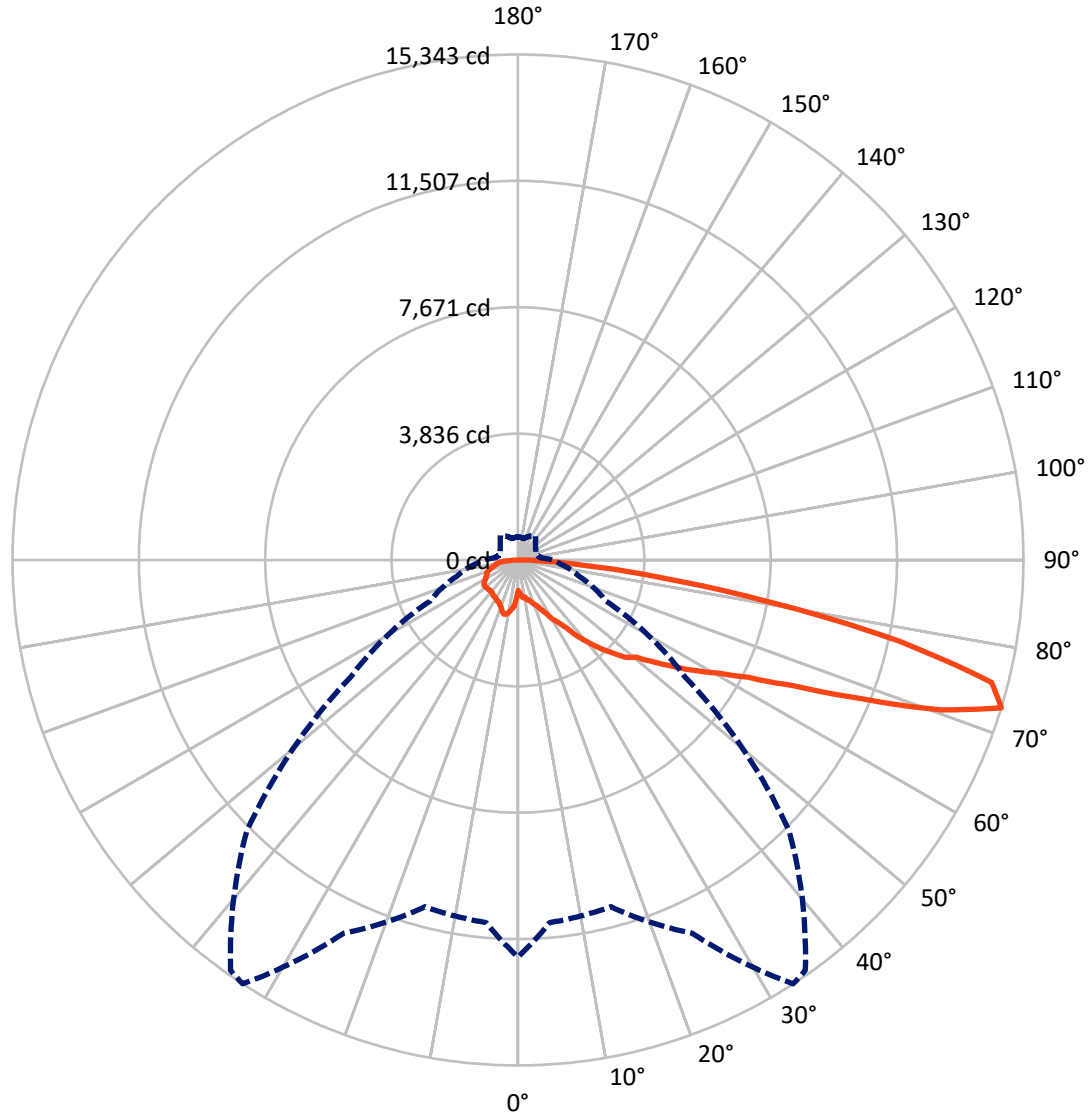
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 fc  
 Type IV - Short - N/A

REPORT NUMBER: P368356  
CATALOG NUMBER: MSA-SA4B-730-U-T4FT

### Luminous Intensity Polar Plot



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

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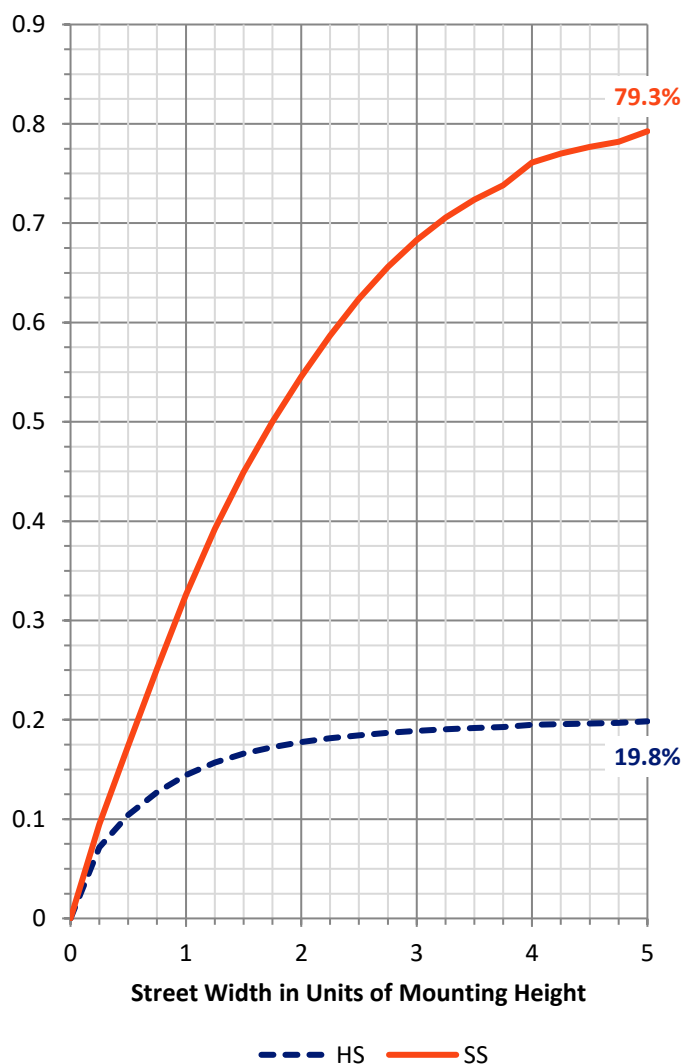
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3587.8	0.0	3587.8
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	14147.2	0.0	14147.2
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	17735.0	0.0	17735.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.9	0.7
10°-20°	472.5	2.7
20°-30°	861.7	4.9
30°-40°	1457.7	8.2
40°-50°	2425.2	13.7
50°-60°	3559.1	20.1
60°-70°	4552.9	25.7
70°-80°	3704.2	20.9
80°-90°	573.7	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°	17735.0	100.0
0°-180°	17735.0	100.0

**Coefficient of Utilization**

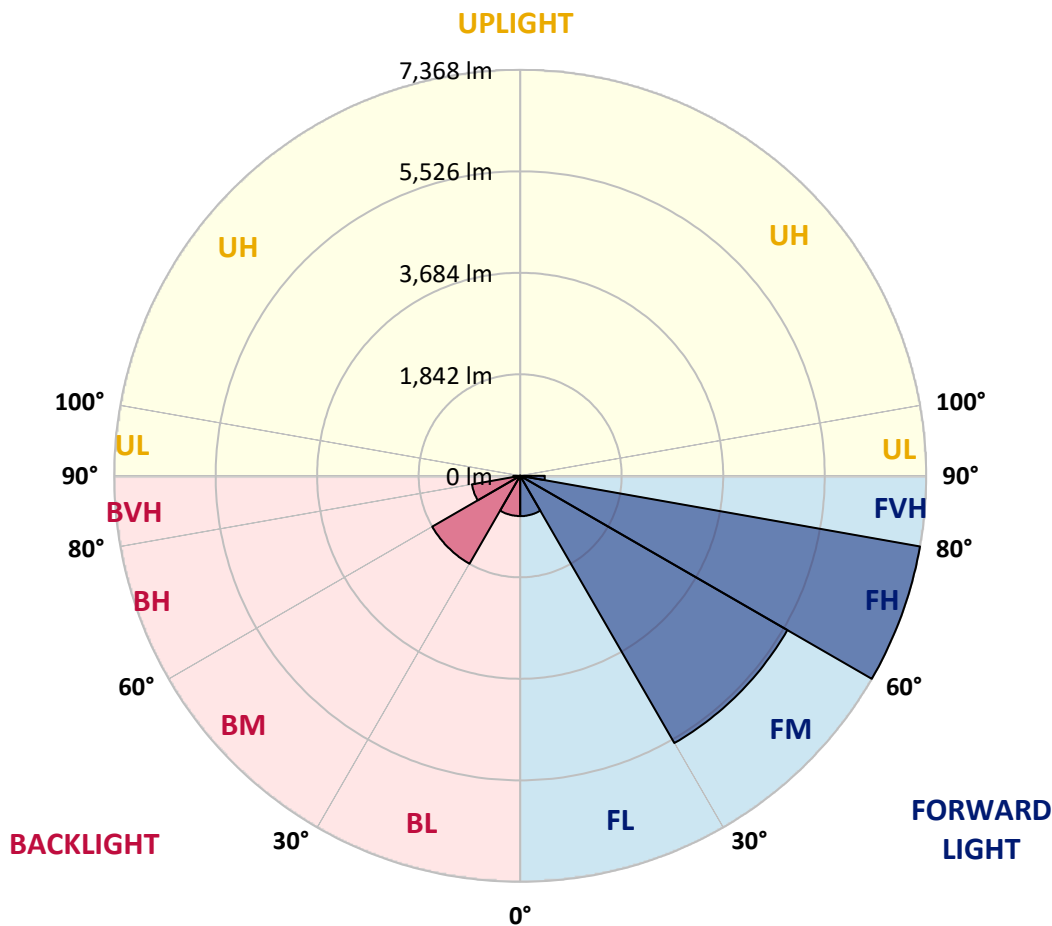


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	731.9	4.1			
FM (30°-60°)	5599.3	31.6			
FH (60°-80°)	7368.2	41.5			G3/7500
FVH (80°-90°)	447.8	2.5			G3/500
BL (0°-30°)	730.2	4.1	B2/1000		
BM (30°-60°)	1842.7	10.4	B2/2500		
BH (60°-80°)	889.0	5.0	B2/1000		G2/1000
BVH (80°-90°)	125.9	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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	930.0	930.0	930.0	930.0	930.0	930.0	930.0	930.0	930.0	930.0	930.0
2.5°	1054.3	1021.2	966.7	965.3	995.4	1002.1	1021.9	1023.4	1030.7	1019.0	1102.8
5°	1163.2	1127.9	1106.5	1113.9	1099.9	1116.8	1116.8	1165.4	1230.1	1305.2	1411.9
7.5°	1188.9	1163.2	1138.9	1157.3	1160.2	1144.0	1159.5	1273.5	1390.5	1465.6	1636.2
10°	1137.4	1111.7	1130.1	1136.0	1135.2	1172.0	1252.2	1343.4	1473.7	1612.0	1703.9
12.5°	1127.9	1146.3	1155.1	1165.4	1235.3	1246.3	1367.7	1461.9	1592.8	1714.2	1953.3
15°	1269.9	1294.1	1239.7	1236.0	1258.8	1269.1	1394.9	1489.8	1681.1	1884.9	2099.8
17.5°	1472.2	1481.0	1383.2	1333.1	1350.1	1358.1	1413.3	1532.5	1650.2	2026.9	2294.7
20°	1667.9	1673.8	1489.8	1378.0	1437.6	1446.4	1497.9	1566.4	1659.1	2106.4	2426.4
22.5°	1873.2	1835.6	1634.0	1492.8	1527.4	1529.6	1559.7	1597.3	1728.9	2093.9	2586.8
25°	2097.5	2074.0	1820.2	1684.8	1683.3	1653.2	1654.6	1708.3	1803.3	2227.8	2692.0
27.5°	2395.5	2398.5	2029.9	1957.0	1843.0	1823.1	1723.8	1823.9	1932.0	2229.2	2919.4
30°	2781.8	2710.4	2321.9	2204.2	2091.7	2049.7	1915.1	2000.4	2047.5	2356.5	3166.6
32.5°	3095.9	3075.3	2626.5	2448.5	2264.6	2313.1	2164.5	2089.5	2174.1	2575.8	3541.0
35°	3396.8	3329.1	2948.8	2717.0	2523.5	2494.1	2397.7	2410.2	2461.7	2853.1	4030.3
37.5°	3845.6	3808.8	3404.9	3034.1	2943.6	2823.7	2762.6	2801.6	2761.2	3208.5	4763.8
40°	4347.4	4134.0	3786.0	3455.7	3286.5	3201.9	3223.2	3186.4	3155.5	3607.3	5421.5
42.5°	4827.8	4633.6	4039.1	3890.5	3669.8	3705.1	3588.1	3613.9	3701.4	4173.0	6030.0
45°	5350.9	4930.8	4307.7	4176.7	4018.5	4063.4	4156.8	4128.9	4272.3	4840.3	6603.1
47.5°	5612.1	5212.6	4637.3	4423.9	4421.7	4328.3	4897.0	4958.8	4734.4	5334.7	7185.1
50°	5863.7	5470.8	4882.3	4738.1	4633.6	4833.7	5606.9	5465.0	5152.3	5902.0	7825.2
52.5°	6213.9	5765.9	5163.3	5009.5	5139.0	5324.4	6173.5	6145.5	5562.1	6485.4	8381.4
55°	6481.0	6028.5	5586.3	5443.6	5690.8	5872.5	6750.3	6581.8	5913.0	6913.6	8733.8
57.5°	6948.9	6484.7	6211.0	5893.9	6338.3	6335.3	7306.5	7176.2	6288.2	7265.3	8875.8
60°	7692.7	7147.6	6861.4	6495.7	6971.7	7141.7	7942.1	7566.9	6553.8	7487.5	8619.7
62.5°	8736.7	8089.3	7625.0	7263.1	7843.5	8151.1	8727.2	7851.6	6570.7	7424.2	7946.5
65°	10027.9	9240.7	8632.2	8249.7	9207.6	9646.8	9676.2	8027.5	6414.8	6770.1	6531.0
67.5°	11287.5	10402.4	9767.5	9840.3	11238.9	11447.1	10704.8	8174.6	5576.8	5436.3	4535.0
70°	12116.6	11157.2	10734.2	11506.7	13631.5	13418.1	11538.3	7786.9	4391.5	3524.1	2553.7
72.5°	12054.1	11049.8	10897.5	12497.0	15342.8	15209.6	11639.9	6192.6	2941.4	1926.9	1273.5
75°	9820.4	9039.8	9385.6	11830.4	14849.8	14843.2	10105.9	3833.1	1509.0	989.5	804.9
77.5°	5429.6	5126.5	6142.6	8957.4	11823.8	11884.1	6828.2	1738.5	813.7	701.1	606.2
80°	1901.8	1873.9	2661.8	4833.7	7778.1	7792.8	3175.4	795.3	591.5	530.5	445.1
82.5°	695.3	689.4	1103.6	2245.4	4282.6	4273.1	1204.4	495.1	438.5	375.2	293.6
85°	277.4	271.5	504.7	996.9	1967.3	1935.7	467.9	281.0	286.9	223.7	144.2
87.5°	76.5	79.5	171.4	311.9	602.6	558.4	117.7	94.9	116.2	91.2	45.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P368356  
 CATALOG NUMBER: MSA-SA4B-730-U-T4FT

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	930.0	930.0	930.0	930.0	930.0	930.0	930.0	930.0	930.0	930.0	930.0
2.5°	1117.6	1124.9	1052.1	1077.8	1110.9	1128.6	1137.4	1099.9	1112.4	1165.4	1163.2
5°	1433.9	1404.5	1376.5	1405.2	1386.1	1358.9	1403.0	1400.8	1429.5	1458.2	1464.8
7.5°	1670.1	1631.8	1618.6	1553.8	1489.1	1423.6	1480.3	1515.6	1522.9	1594.3	1624.5
10°	1755.4	1740.7	1745.9	1660.5	1652.4	1659.1	1606.8	1550.2	1584.7	1555.3	1577.4
12.5°	1952.6	1989.4	1898.2	1840.0	1834.9	1794.4	1690.0	1653.2	1614.2	1654.6	1634.0
15°	2110.8	2179.2	2081.4	1979.1	1863.6	1801.1	1712.0	1656.1	1630.4	1639.2	1614.2
17.5°	2342.5	2406.6	2157.9	2001.2	1882.0	1790.0	1653.9	1534.7	1598.0	1603.1	1574.4
20°	2496.3	2500.7	2183.6	1946.7	1839.3	1679.7	1547.2	1442.8	1515.6	1589.9	1622.3
22.5°	2646.4	2613.3	2215.3	1903.3	1684.1	1529.6	1464.8	1458.2	1512.6	1575.2	1582.5
25°	2759.0	2764.1	2233.7	1887.1	1592.8	1382.4	1382.4	1430.2	1478.1	1626.7	1619.3
27.5°	3031.9	2831.1	2162.3	1812.8	1466.3	1296.3	1383.2	1447.2	1470.0	1631.1	1647.3
30°	3230.6	3099.6	2177.0	1685.5	1338.3	1255.9	1327.2	1407.4	1470.7	1656.8	1651.0
32.5°	3563.8	3211.4	2211.6	1506.8	1242.6	1240.4	1303.7	1388.3	1464.1	1628.9	1637.7
35°	3932.4	3541.0	2115.2	1370.7	1219.8	1231.6	1313.3	1347.1	1436.1	1617.9	1625.9
37.5°	4614.5	3713.2	2054.1	1265.4	1205.1	1239.0	1269.9	1322.1	1411.9	1562.7	1615.6
40°	5014.7	4067.8	1827.5	1204.4	1174.2	1233.1	1248.5	1292.7	1341.2	1496.5	1530.3
42.5°	5541.5	4179.6	1634.0	1136.7	1158.8	1208.8	1255.1	1266.2	1298.6	1392.0	1453.8
45°	5980.7	4263.5	1428.8	1082.2	1106.5	1262.5	1265.4	1260.3	1254.4	1289.0	1339.8
47.5°	6435.4	4488.6	1239.7	1021.9	1086.7	1306.6	1270.6	1223.5	1199.2	1203.6	1250.7
50°	6937.1	4652.0	1105.8	972.6	1091.1	1306.6	1295.6	1186.0	1137.4	1124.9	1174.2
52.5°	7378.6	4671.1	1004.3	932.9	1072.7	1261.8	1312.5	1162.4	1080.8	1050.6	1097.0
55°	7619.2	4429.1	930.7	896.8	1025.6	1221.3	1303.7	1149.2	1012.4	989.5	1030.7
57.5°	7614.0	4027.3	868.2	846.8	971.9	1164.7	1254.4	1077.1	970.4	957.2	997.6
60°	7339.6	3556.5	820.3	805.6	916.7	1082.2	1166.1	1030.0	930.0	923.3	967.5
62.5°	6717.2	3070.2	774.0	762.2	865.2	1024.1	1124.2	977.8	888.0	887.3	929.2
65°	5501.0	2464.7	730.6	727.6	817.4	966.7	1084.5	933.6	844.6	859.3	902.0
67.5°	3790.4	1731.9	684.2	693.1	773.2	911.6	1054.3	904.2	799.0	829.2	867.4
70°	2079.9	1071.2	632.7	650.4	717.3	847.6	1007.2	856.4	739.4	785.8	812.2
72.5°	1058.0	714.4	568.7	596.7	648.9	753.4	918.9	787.2	675.4	693.1	707.0
75°	710.7	537.8	497.3	528.2	565.8	663.6	815.2	722.5	614.3	612.1	627.6
77.5°	537.1	420.1	422.3	457.6	481.9	583.4	732.8	668.0	562.8	557.7	580.5
80°	392.9	318.6	339.9	376.7	398.8	523.8	679.1	607.7	492.9	472.3	491.5
82.5°	260.4	225.9	251.6	288.4	306.1	437.8	616.5	515.7	401.7	349.5	352.4
85°	122.9	118.5	150.1	167.7	190.6	271.5	461.3	356.8	256.0	211.9	221.5
87.5°	28.0	37.5	49.3	48.6	56.7	72.8	143.5	100.1	74.3	50.8	33.8
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)