

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: P596782

Luminaire Tested: **MSA-SA4B-827-U-T4W**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596782  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4B-827-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14482 lumens  
Efficiency: N/A  
Efficacy: 84.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G3

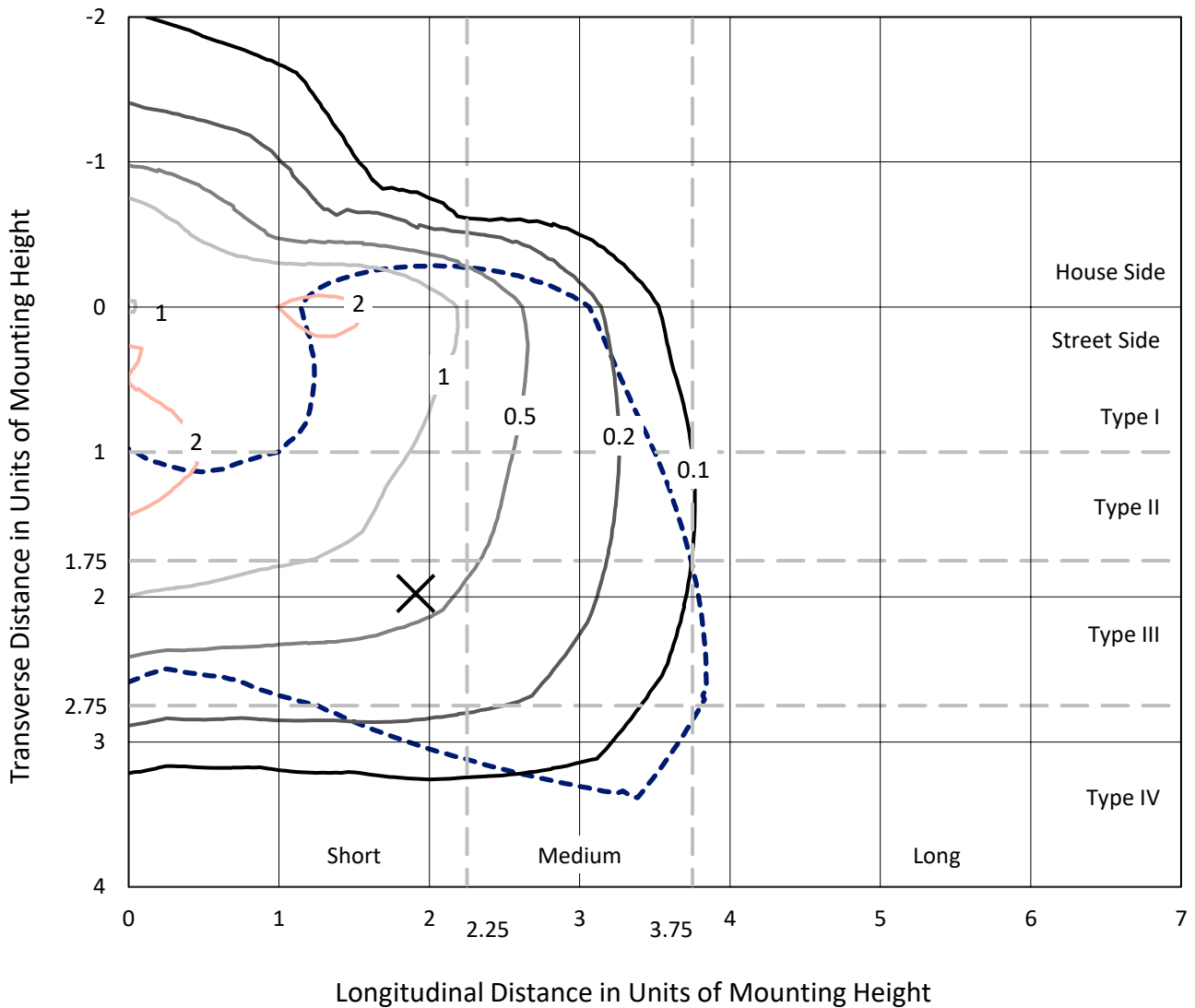
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

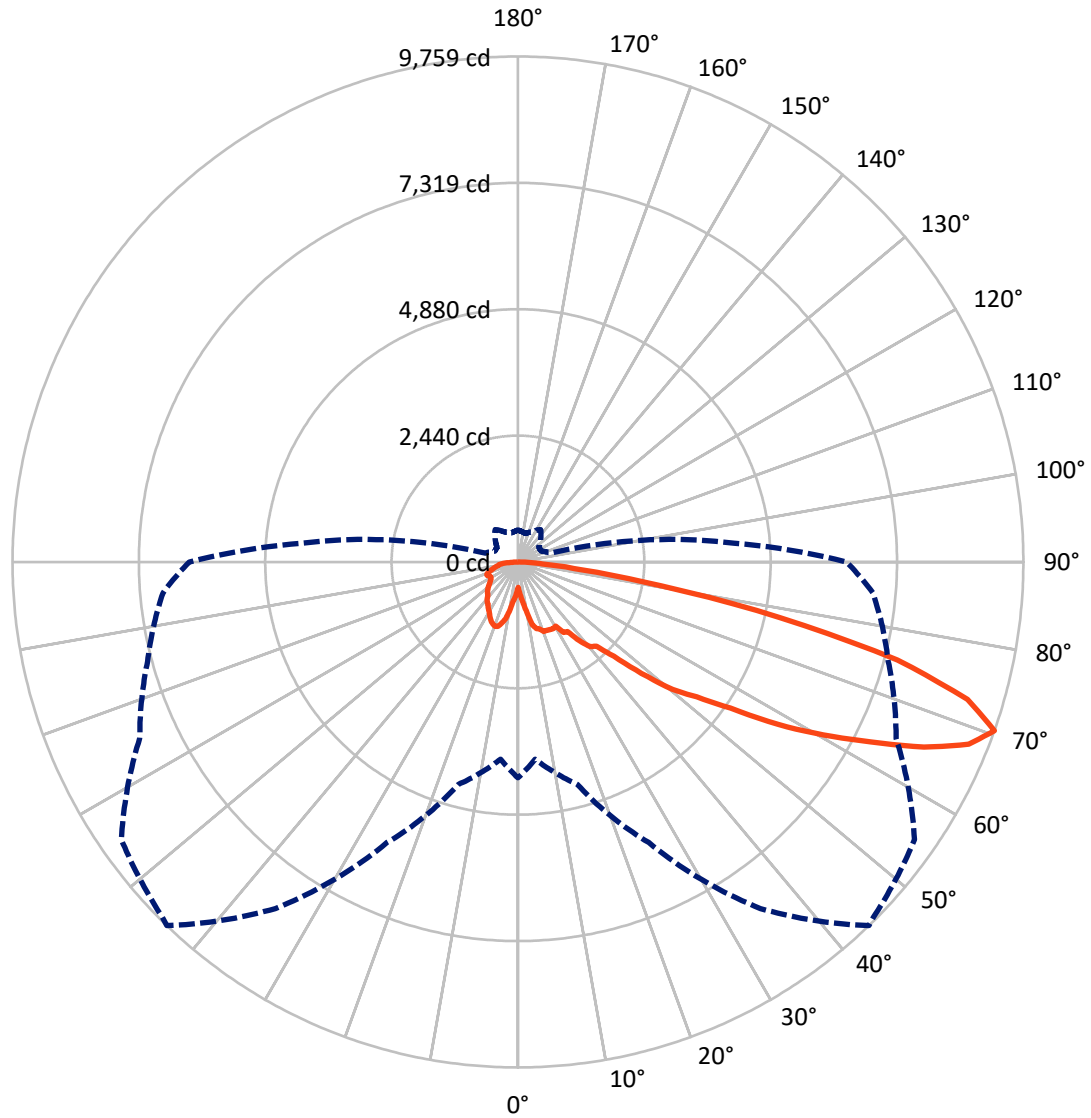
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.8 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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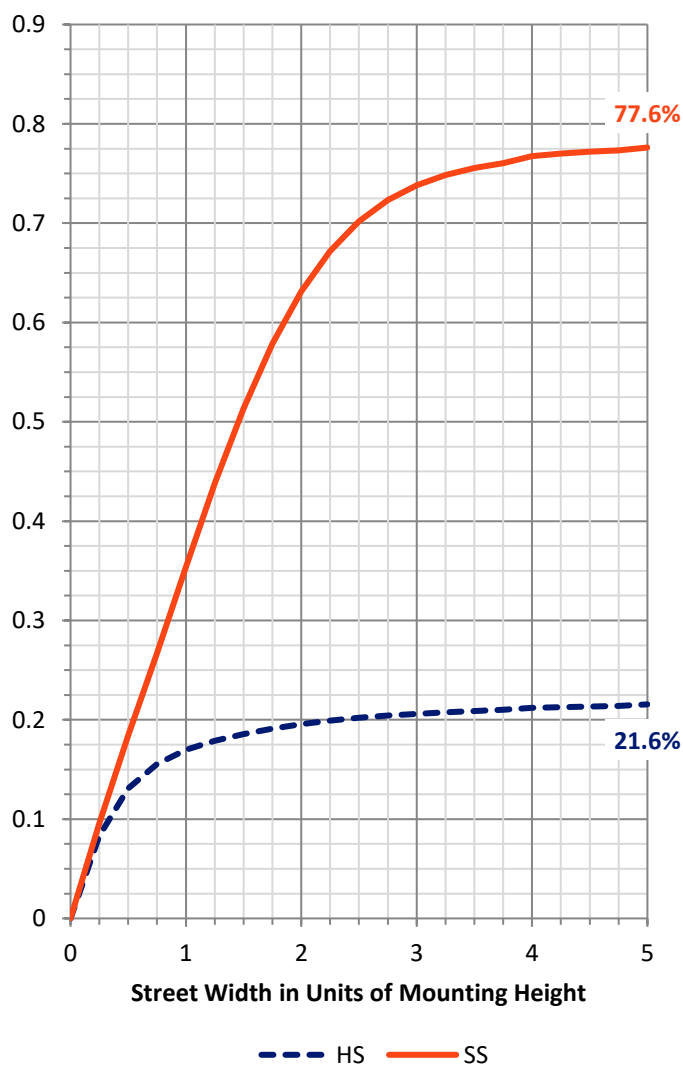
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3195.3	0.0	3195.3
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	11286.7	0.0	11286.7
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	14482.0	0.0	14482.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.2	0.5
10°-20°	355.4	2.5
20°-30°	664.2	4.6
30°-40°	1066.1	7.4
40°-50°	1799.5	12.4
50°-60°	3206.7	22.1
60°-70°	4386.3	30.3
70°-80°	2579.4	17.8
80°-90°	347.3	2.4
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°	14482.0	100.0
0°-180°	14482.0	100.0

**Coefficient of Utilization**



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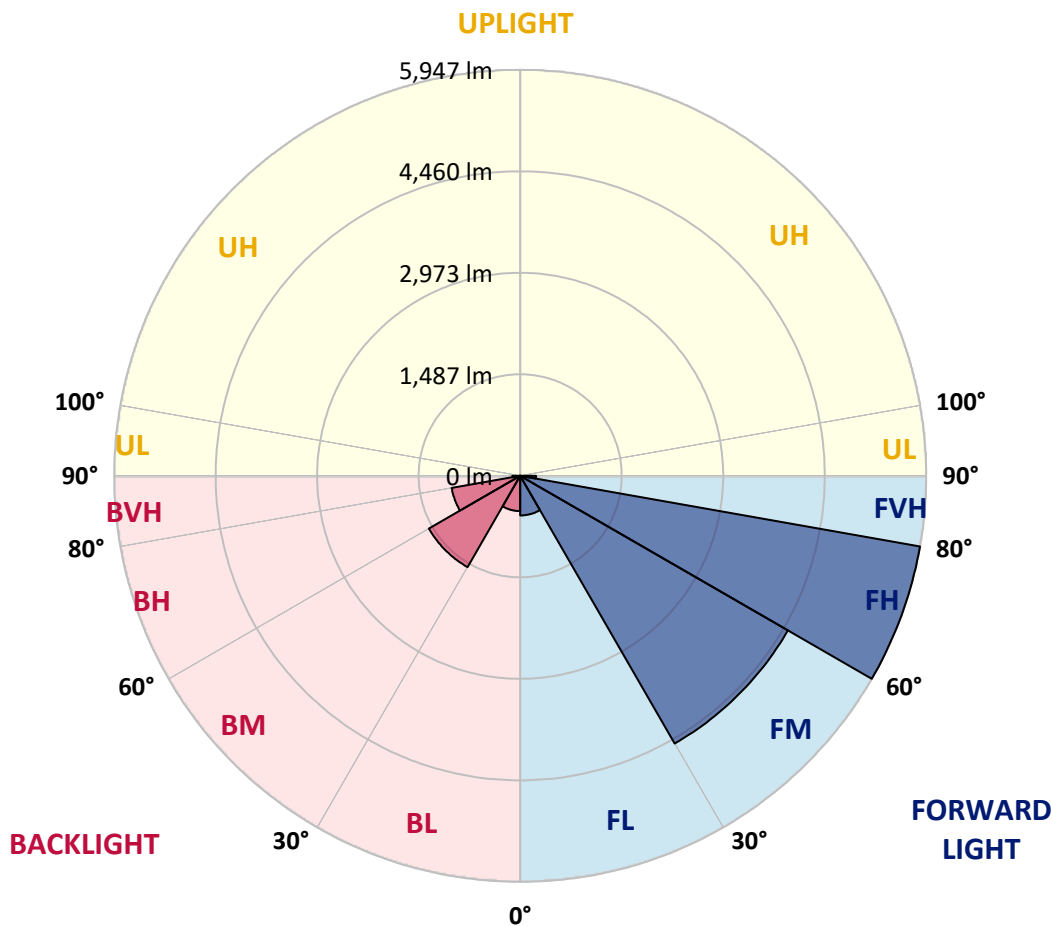
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	580.4	4.0			
FM (30°-60°)	4528.1	31.3			
FH (60°-80°)	5946.8	41.1			G3/7500
FVH (80°-90°)	231.5	1.6			G3/500
BL (0°-30°)	516.4	3.6	B2/1000		
BM (30°-60°)	1544.1	10.7	B2/2500		
BH (60°-80°)	1018.9	7.0	B3/2500		G3/2500
BVH (80°-90°)	115.8	0.8			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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3
2.5°	597.4	585.5	557.0	566.5	578.4	583.1	581.9	580.7	562.3	555.8	588.5
5°	811.7	785.6	764.8	756.5	729.2	707.8	694.7	729.2	723.8	732.8	755.3
7.5°	1013.6	997.0	950.1	933.5	877.6	840.8	836.7	864.0	871.1	856.9	895.5
10°	1143.7	1115.2	1105.7	1065.9	1027.3	1021.3	1017.8	1005.3	988.1	986.9	952.5
12.5°	1244.6	1259.5	1267.2	1221.5	1222.6	1244.0	1232.7	1182.3	1153.2	1102.1	1106.3
15°	1425.7	1447.1	1385.9	1356.8	1301.0	1333.1	1328.9	1286.8	1282.6	1249.4	1210.8
17.5°	1583.7	1593.2	1491.0	1424.5	1405.5	1359.2	1371.7	1372.9	1318.2	1377.6	1343.2
20°	1596.7	1630.6	1513.0	1380.6	1437.6	1431.7	1433.4	1421.6	1349.7	1447.7	1434.6
22.5°	1660.9	1609.2	1503.5	1406.7	1421.6	1430.5	1438.8	1424.5	1420.4	1475.0	1514.8
25°	1649.0	1632.4	1525.5	1443.5	1445.3	1447.1	1451.3	1494.0	1489.3	1563.5	1584.3
27.5°	1760.0	1734.5	1532.0	1511.8	1465.5	1455.4	1426.9	1516.0	1585.5	1583.7	1698.3
30°	1971.4	1945.3	1684.0	1625.2	1541.5	1438.2	1492.8	1611.6	1666.2	1684.6	1830.1
32.5°	2301.6	2344.3	1983.3	1746.4	1642.5	1619.9	1614.0	1602.1	1737.5	1828.3	1960.7
35°	2775.4	2741.6	2336.0	2005.9	1748.7	1652.0	1665.0	1737.5	1898.4	1957.2	2079.5
37.5°	3318.2	3248.1	2787.9	2299.8	2055.2	1934.0	1890.7	1960.7	1996.4	2042.7	2292.7
40°	3869.8	3698.8	3231.5	2686.4	2239.2	2147.8	2109.8	2023.7	2107.4	2201.2	2518.9
42.5°	4402.5	4270.0	3714.2	3147.7	2549.2	2223.2	2202.4	2118.1	2377.6	2476.8	2845.5
45°	4960.6	4653.6	4208.9	3668.5	3002.3	2593.1	2562.3	2410.8	2743.4	2950.0	3306.3
47.5°	5335.9	5051.5	4661.9	4091.3	3381.7	3211.9	3153.1	2894.2	3195.8	3464.2	4018.3
50°	5691.0	5398.3	4989.1	4553.9	4068.7	3873.4	3748.1	3317.0	3759.4	4196.4	4930.9
52.5°	6199.3	5937.4	5369.2	5020.0	4806.8	4326.4	4233.2	3996.3	4418.5	5008.1	5928.5
55°	6742.6	6385.8	5870.9	5677.3	5591.2	4976.1	4900.1	4749.2	5296.1	5838.9	6898.2
57.5°	6982.5	6610.2	6326.4	6210.6	6203.5	5920.2	5832.9	5727.8	6193.4	6551.4	7810.9
60°	7173.1	6773.5	6660.1	6724.8	6960.0	6773.5	6660.1	6567.5	6923.7	7255.7	8555.5
62.5°	7138.1	6737.3	6795.5	6992.6	7593.0	7647.6	7560.3	7335.8	7647.6	7832.8	8982.5
65°	6572.8	6202.3	6541.3	7009.2	8181.4	8617.9	8613.1	8025.8	8133.9	8133.9	8937.3
67.5°	5582.3	5198.7	5753.9	6862.6	8588.2	9386.8	9388.0	8757.4	8178.4	8103.6	8239.0
70°	4168.5	3821.1	4445.2	5976.6	8168.3	9759.1	9705.1	9347.6	8056.1	7402.3	6882.2
72.5°	2489.8	2265.4	2839.6	4350.8	6967.7	9074.5	9218.2	8667.7	7375.0	6156.0	4919.7
75°	1130.6	1033.2	1334.3	2499.3	4974.3	7569.2	7725.4	7315.1	5857.9	4427.4	2843.1
77.5°	483.9	457.8	582.5	1108.6	2742.8	5176.2	5496.2	5227.8	3969.0	2572.9	1257.7
80°	311.2	294.5	358.1	533.2	1273.7	2796.8	3072.3	2972.0	2021.9	1000.6	443.0
82.5°	185.9	180.5	239.3	334.9	694.7	1231.0	1387.1	1423.9	839.6	448.9	253.6
85°	101.5	102.7	131.2	203.1	416.8	479.2	513.0	558.2	395.5	260.1	122.9
87.5°	33.8	39.2	52.8	82.5	148.5	135.4	136.0	158.0	166.9	108.1	39.2
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°	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3
2.5°	593.8	583.1	555.8	557.6	567.7	570.1	573.0	555.8	552.2	584.9	587.9
5°	758.9	723.8	707.8	702.5	687.0	681.7	710.2	723.3	736.3	761.8	774.3
7.5°	891.3	852.1	823.0	796.3	773.7	760.7	808.8	845.6	868.1	920.4	944.1
10°	951.9	918.0	907.3	886.0	903.2	942.4	951.3	952.5	1002.3	1001.2	1011.2
12.5°	1072.4	1050.4	1015.4	1023.1	1068.3	1108.6	1097.3	1114.6	1132.4	1175.1	1155.5
15°	1182.3	1176.3	1143.7	1149.0	1157.9	1208.4	1214.9	1232.1	1259.5	1293.3	1270.1
17.5°	1317.6	1315.3	1235.7	1228.6	1249.4	1298.6	1283.2	1252.9	1343.2	1379.4	1369.9
20°	1409.7	1391.9	1289.7	1259.5	1312.3	1318.8	1301.0	1252.9	1331.3	1410.3	1431.7
22.5°	1486.3	1465.5	1360.4	1301.0	1290.3	1293.3	1293.3	1284.4	1323.0	1387.7	1387.1
25°	1548.0	1567.6	1434.0	1377.0	1320.0	1248.8	1239.9	1247.6	1269.5	1394.2	1390.1
27.5°	1703.0	1649.0	1459.0	1416.2	1299.2	1187.0	1211.4	1223.2	1230.4	1366.9	1389.5
30°	1804.0	1820.6	1548.0	1439.4	1269.0	1118.1	1126.4	1160.9	1202.5	1364.0	1370.5
32.5°	1940.0	1904.3	1687.0	1400.8	1188.2	1076.6	1061.1	1107.4	1169.2	1315.9	1333.7
35°	2066.4	2108.6	1745.8	1393.7	1131.8	1014.2	1030.8	1046.9	1111.0	1262.4	1283.2
37.5°	2363.3	2267.1	1910.9	1359.2	1084.9	982.7	964.9	989.3	1043.9	1160.9	1209.0
40°	2589.0	2594.9	1946.5	1315.9	995.2	937.6	899.6	924.0	947.1	1040.3	1061.1
42.5°	3012.4	2882.9	2033.8	1220.9	938.8	869.9	848.5	859.2	862.8	902.0	936.4
45°	3550.9	3247.5	2068.2	1093.2	864.6	842.0	798.7	793.3	773.7	779.1	809.4
47.5°	4296.2	3816.4	2043.3	957.2	798.7	805.8	743.4	719.1	691.8	698.3	726.8
50°	5259.9	4543.2	2041.5	842.0	753.5	758.3	707.2	663.3	636.0	649.6	674.6
52.5°	6341.2	5272.4	2049.8	763.0	704.2	701.9	683.5	630.0	608.1	622.3	650.8
55°	7375.6	5899.4	2111.6	713.2	653.2	657.3	664.5	619.3	595.0	608.1	637.7
57.5°	8275.8	6394.7	2088.4	660.3	605.7	624.7	643.7	604.5	586.1	605.1	634.8
60°	8905.3	6624.5	1905.5	609.8	570.6	596.8	633.6	602.7	600.3	641.3	676.9
62.5°	9135.1	6539.5	1549.2	570.1	549.9	593.2	656.7	641.9	644.3	694.7	744.0
65°	8799.6	6093.0	1155.5	544.5	533.8	610.4	710.2	665.1	632.4	674.0	719.1
67.5°	7845.3	5299.1	844.4	522.5	515.4	637.7	759.5	662.7	602.1	644.3	681.1
70°	6347.2	4182.7	653.8	494.6	491.1	619.3	764.2	644.9	569.5	596.8	617.6
72.5°	4349.0	2863.9	541.5	467.9	448.9	548.7	725.6	605.1	530.3	546.3	563.5
75°	2430.4	1607.4	455.4	434.7	393.1	488.7	680.5	581.3	501.2	505.9	529.7
77.5°	1090.8	695.3	386.6	390.7	342.6	432.3	621.7	543.3	456.6	445.9	469.7
80°	412.7	339.1	313.5	330.2	288.0	374.7	560.5	508.9	409.7	396.1	409.7
82.5°	239.3	205.5	232.8	254.1	228.6	344.4	535.0	477.4	361.0	326.6	338.5
85°	111.0	106.3	139.5	165.1	159.7	268.4	457.8	359.3	257.1	217.3	240.5
87.5°	29.1	32.7	49.3	58.2	59.4	92.0	176.4	133.6	100.4	76.0	73.0
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)