

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: P597174

Luminaire Tested: **MSA-SA4D-835-U-T3**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P597174  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-10)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-835-U-T3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 21657 lumens  
Efficiency: N/A  
Efficacy: 83.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3

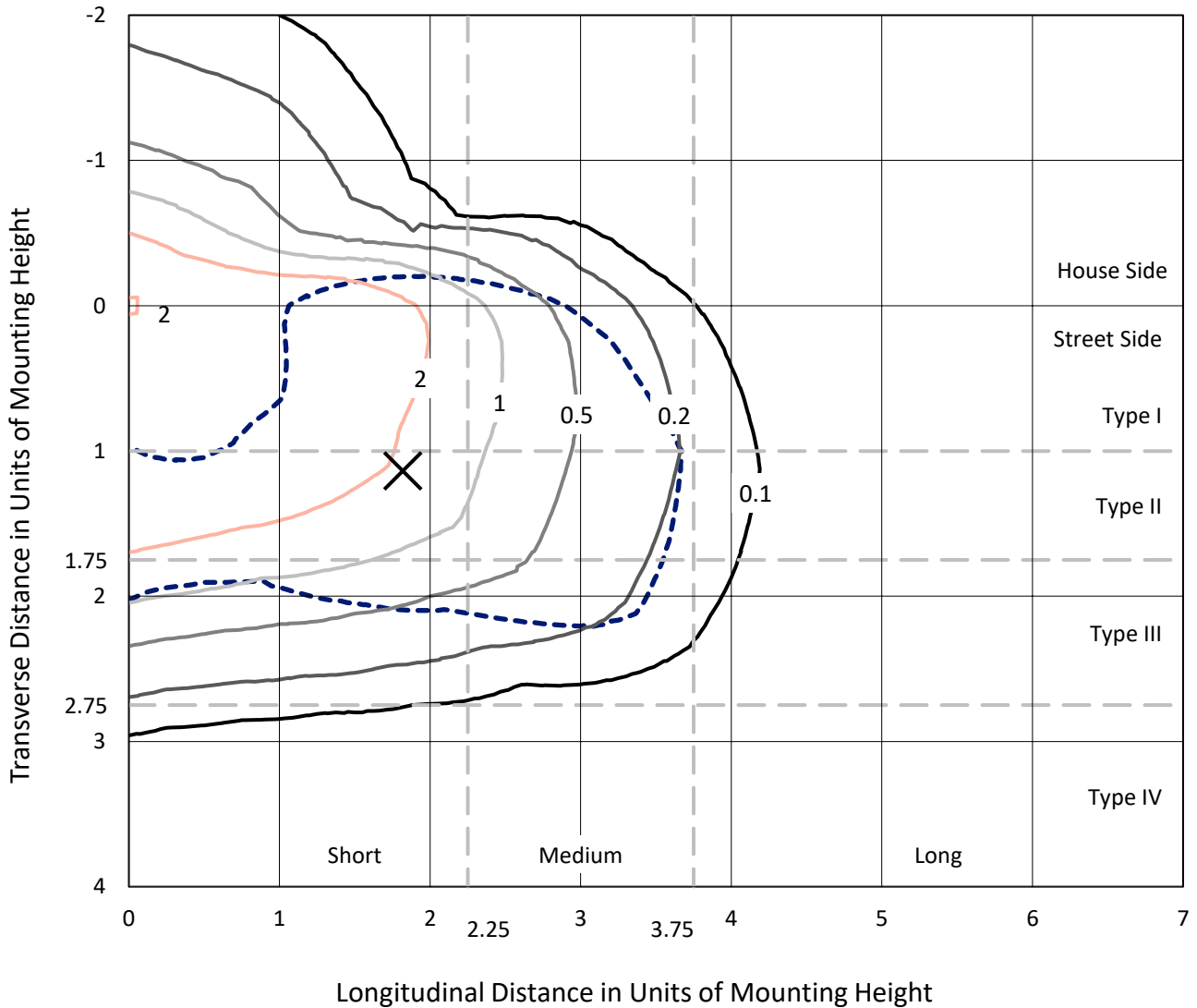
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

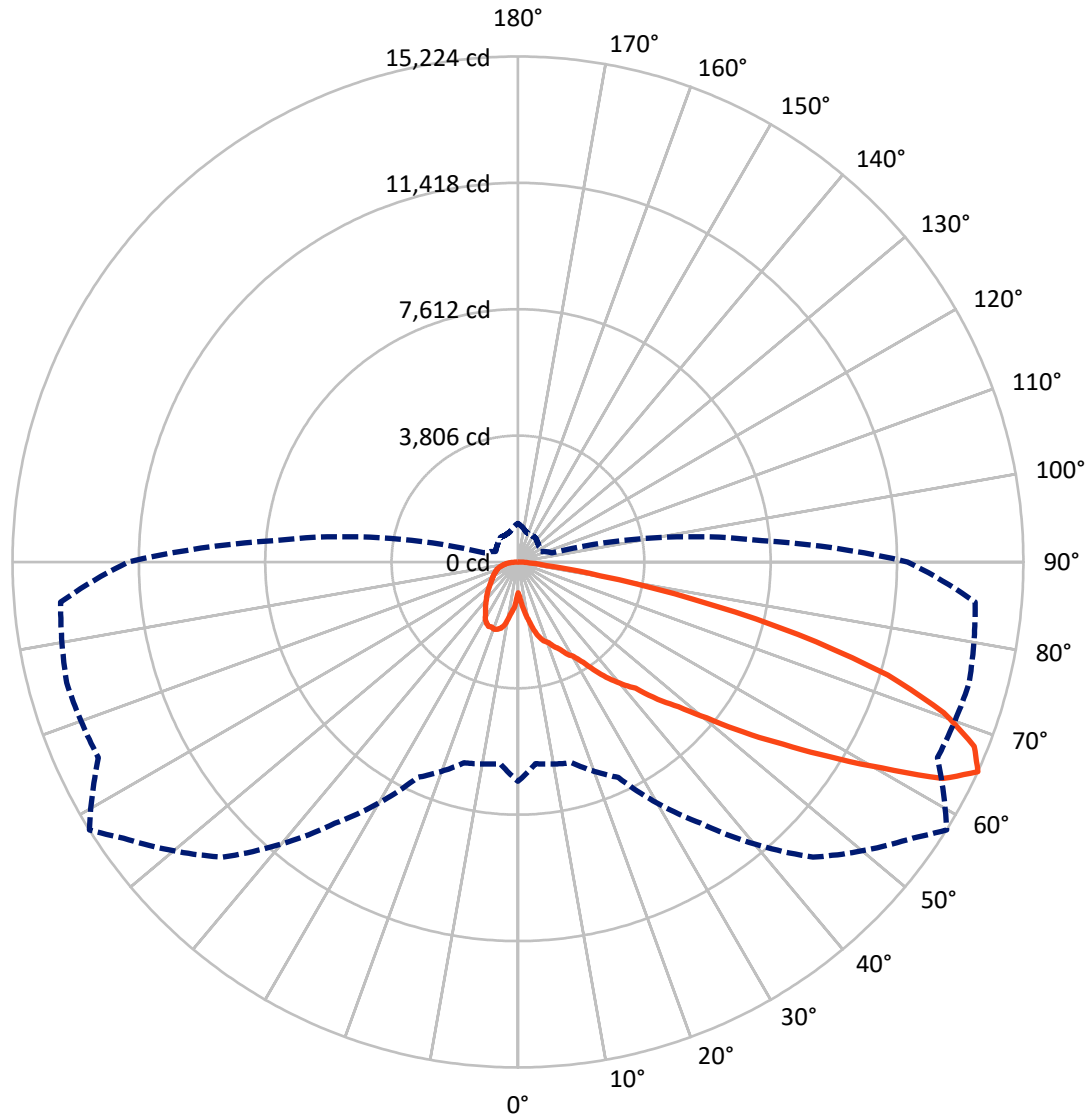
✕ Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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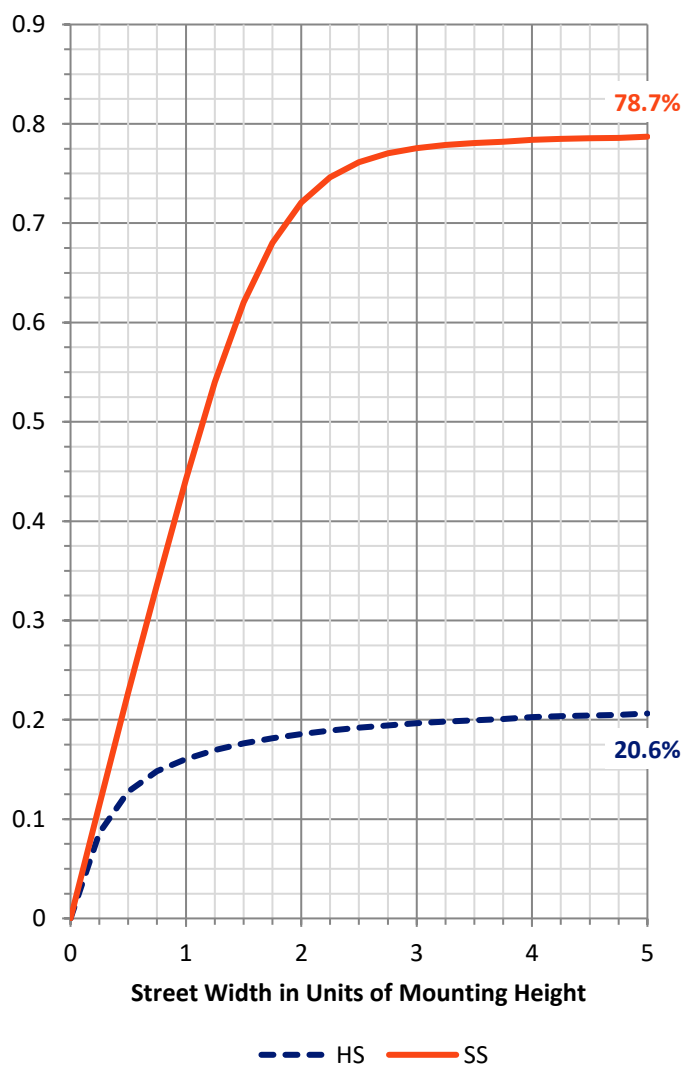
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4561.6	0.0	4561.6
	% Fixture	21.1	0.0	21.1
<b>Street Side</b>	Lumens	17095.4	0.0	17095.4
	% Fixture	78.9	0.0	78.9
<b>Total</b>	Lumens	21657.0	0.0	21657.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.7	0.7
10°-20°	618.1	2.9
20°-30°	1186.0	5.5
30°-40°	1958.0	9.0
40°-50°	3254.4	15.0
50°-60°	5374.6	24.8
60°-70°	6029.3	27.8
70°-80°	2741.4	12.7
80°-90°	353.6	1.6
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°	21657.0	100.0
0°-180°	21657.0	100.0

**Coefficient of Utilization**



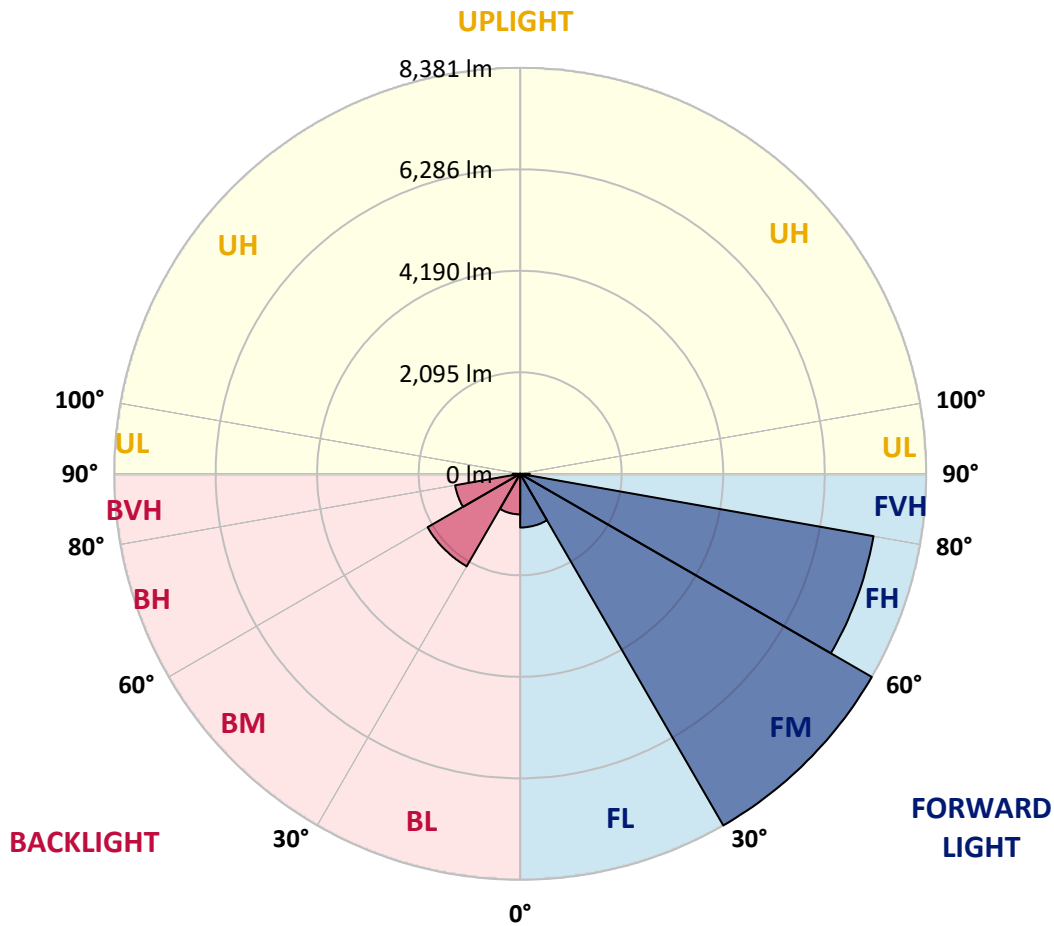
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1108.2	5.1			
FM (30°-60°)	8380.9	38.7			
FH (60°-80°)	7407.1	34.2			G3/7500
FVH (80°-90°)	199.1	0.9			G2/225
BL (0°-30°)	837.4	3.9	B2/1000		
BM (30°-60°)	2206.1	10.2	B2/2500		
BH (60°-80°)	1363.6	6.3	B3/2500		G3/2500
BVH (80°-90°)	154.5	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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	929.9	929.9	929.9	929.9	929.9	929.9	929.9	929.9	929.9	929.9	929.9
2.5°	1110.2	1076.9	1020.9	1034.5	1066.9	1085.0	1074.2	1059.7	1040.8	1037.2	1120.2
5°	1437.6	1373.6	1347.4	1336.6	1296.9	1273.5	1314.1	1308.6	1330.3	1370.0	1451.1
7.5°	1676.6	1631.5	1588.2	1583.7	1507.1	1480.0	1534.1	1563.0	1601.8	1602.7	1712.7
10°	1804.7	1765.9	1765.0	1724.4	1718.1	1769.5	1770.4	1792.1	1796.6	1842.6	1820.9
12.5°	1943.6	1940.9	1990.5	1989.6	2047.3	2132.1	2089.7	2089.7	2102.3	2046.4	2114.9
15°	2274.6	2303.4	2210.5	2225.9	2225.9	2308.8	2306.1	2322.4	2361.2	2346.7	2316.1
17.5°	2619.1	2637.1	2534.3	2438.7	2445.9	2427.9	2492.8	2499.1	2462.2	2629.9	2592.9
20°	2841.0	2911.3	2694.9	2574.9	2598.4	2619.1	2621.8	2583.0	2564.1	2822.0	2771.5
22.5°	3115.1	3055.6	2857.2	2724.6	2759.8	2731.8	2726.4	2756.2	2782.3	2879.7	2961.8
25°	3298.2	3293.7	3055.6	2910.4	2871.6	2863.5	2918.5	2906.8	2969.0	3145.8	3094.4
27.5°	3564.3	3647.3	3225.2	3261.2	3090.8	2911.3	3088.1	3141.3	3253.1	3224.3	3338.8
30°	4080.2	4017.9	3576.9	3567.0	3374.0	3223.4	3346.0	3300.9	3502.1	3495.7	3580.5
32.5°	4501.4	4544.6	3990.0	3886.3	3742.9	3561.6	3480.4	3605.8	3714.0	3891.7	3939.5
35°	4946.9	4937.0	4413.0	4203.7	3966.5	3891.7	3991.8	4044.1	4274.1	4437.3	4323.7
37.5°	5639.5	5561.1	4961.3	4565.4	4387.7	4360.7	4532.0	4456.3	4705.2	4744.0	4808.0
40°	6283.5	6047.2	5462.8	5009.1	4726.8	4827.8	4833.3	4843.2	4976.7	5082.2	5398.7
42.5°	6895.9	6729.9	5972.3	5631.4	5215.7	5117.3	5178.7	5199.4	5536.7	5752.3	6190.6
45°	7732.8	7288.2	6704.7	6354.7	5889.4	5764.0	5720.7	5899.3	6224.9	6715.5	7091.6
47.5°	8440.8	8039.5	7483.0	7022.1	6501.8	6859.8	6614.5	6514.4	6951.8	7559.7	8158.5
50°	9028.0	8586.0	8040.4	7774.3	7691.4	8010.6	7373.9	7385.6	7786.1	8643.8	9330.1
52.5°	9482.5	9010.8	8527.4	8392.1	8855.7	9039.7	8579.7	8510.3	8802.5	9816.2	10640.5
55°	9907.3	9406.8	9033.4	9309.4	10090.4	10111.1	10078.7	9693.6	10045.3	11072.6	11997.0
57.5°	10016.4	9477.1	9229.1	9625.0	10681.1	11502.8	11825.6	11069.8	11427.9	12215.3	13158.6
60°	9454.6	8992.8	8893.6	9431.1	11000.4	12201.7	13045.0	12593.1	12458.8	13132.5	13972.1
62.5°	8303.7	7768.0	7848.3	8595.1	10664.0	12478.6	14008.2	14360.9	13547.4	13862.1	14327.5
65°	6609.1	6097.7	6260.0	7158.3	9607.9	12570.6	14500.7	15224.0	13940.6	14068.6	13824.2
67.5°	4661.0	4196.5	4401.2	5562.9	7992.6	11392.7	14585.4	14821.7	13522.1	13479.7	12449.7
70°	2640.7	2349.4	2571.3	3539.9	5641.3	9075.8	13920.7	13609.6	12771.7	12171.1	10416.9
72.5°	1211.2	1111.1	1217.6	1802.0	3247.7	6039.1	11364.8	11647.1	11004.9	10253.6	7924.9
75°	644.0	608.8	653.9	900.1	1519.7	3285.6	8074.7	8709.6	8367.8	7777.0	5169.7
77.5°	478.9	451.8	473.5	583.5	811.7	1285.2	4587.9	5388.8	5518.7	4974.8	2870.7
80°	367.1	345.4	367.1	441.0	561.9	610.6	1961.6	2511.8	2860.8	2311.6	1140.9
82.5°	272.4	257.9	291.3	331.0	395.0	381.5	696.3	866.7	1117.4	763.9	444.6
85°	216.5	198.4	211.0	224.6	252.5	209.2	318.4	356.2	377.0	315.7	164.1
87.5°	84.8	78.5	153.3	120.9	102.8	63.1	95.6	108.2	110.9	106.4	47.8
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°	929.9	929.9	929.9	929.9	929.9	929.9	929.9	929.9	929.9	929.9	929.9
2.5°	1129.2	1120.2	1066.9	1084.1	1112.0	1117.4	1129.2	1096.7	1080.5	1140.0	1142.7
5°	1458.4	1409.7	1384.4	1387.1	1369.1	1341.1	1383.5	1411.5	1422.3	1466.5	1482.7
7.5°	1713.6	1655.0	1612.6	1563.9	1495.3	1451.1	1525.1	1579.2	1608.1	1700.1	1736.1
10°	1827.2	1780.3	1771.3	1710.0	1708.2	1707.3	1703.7	1684.7	1747.0	1737.9	1763.2
12.5°	2061.7	2051.8	1966.1	1941.8	1944.5	1941.8	1866.0	1862.4	1863.3	1946.3	1916.5
15°	2280.0	2281.8	2203.3	2114.9	2035.6	2011.2	1981.5	1967.9	1987.8	2034.7	2005.8
17.5°	2549.7	2558.7	2334.1	2194.3	2089.7	2087.0	2015.7	1931.9	2052.7	2081.6	2050.0
20°	2723.7	2685.8	2409.9	2175.4	2145.6	2064.4	1976.0	1860.6	1965.2	2035.6	2055.4
22.5°	2888.8	2822.9	2480.2	2208.7	2066.2	1969.7	1884.1	1809.2	1842.6	1921.0	1908.4
25°	3000.6	2982.6	2577.6	2289.0	2063.5	1848.9	1733.4	1685.6	1702.8	1824.5	1812.8
27.5°	3267.6	3072.8	2560.5	2309.8	1977.0	1683.8	1626.1	1574.7	1557.6	1689.2	1725.3
30°	3446.1	3365.9	2675.0	2277.3	1867.8	1548.6	1463.8	1453.0	1458.4	1608.1	1618.0
32.5°	3749.2	3540.8	2862.6	2152.8	1709.1	1448.4	1351.0	1355.5	1379.9	1489.0	1511.6
35°	4064.8	3940.4	2887.9	2063.5	1580.1	1342.0	1302.3	1270.8	1284.3	1379.9	1384.4
37.5°	4651.1	4220.9	3043.0	1925.5	1485.4	1301.4	1225.7	1197.7	1204.9	1259.0	1297.8
40°	5167.0	4784.5	2970.8	1792.1	1368.2	1247.3	1152.6	1131.9	1110.2	1163.4	1187.8
42.5°	5994.0	5186.8	2946.5	1645.1	1313.2	1174.3	1109.3	1054.3	1033.6	1078.7	1122.9
45°	6821.0	5613.4	2813.9	1496.2	1235.6	1168.9	1046.2	993.9	999.3	1039.9	1085.0
47.5°	7742.8	6186.1	2589.3	1351.9	1150.8	1142.7	983.1	960.5	976.8	1021.8	1066.9
50°	8832.2	6794.0	2403.5	1222.1	1090.4	1064.2	974.9	947.9	963.2	1016.4	1060.6
52.5°	10023.7	7460.5	2268.3	1102.1	1021.8	1002.0	985.8	959.6	977.7	1023.6	1069.6
55°	11207.8	8069.2	2176.3	1020.0	963.2	975.8	1008.3	989.4	998.4	1032.7	1078.7
57.5°	12086.3	8390.3	1991.4	932.6	915.4	960.5	1011.0	979.5	984.9	1032.7	1082.3
60°	12596.8	8451.6	1687.4	861.3	877.5	929.9	983.1	942.5	938.9	1017.3	1079.6
62.5°	12540.8	8095.4	1338.4	796.4	834.3	883.9	940.7	901.9	911.8	1019.1	1085.0
65°	11740.0	7367.6	1064.2	741.4	781.9	833.4	905.5	890.2	938.0	1091.3	1162.5
67.5°	10333.0	6304.2	855.0	689.9	733.2	799.1	929.9	970.4	991.2	1165.2	1238.3
70°	8374.1	4898.2	712.5	644.9	694.5	815.3	1000.2	992.1	974.9	1130.1	1187.8
72.5°	6049.9	3357.8	626.8	600.7	646.7	766.6	1002.0	958.7	937.1	1031.8	1073.3
75°	3785.2	2003.1	547.4	544.7	573.6	687.2	956.9	918.1	859.5	906.4	960.5
77.5°	2161.8	1025.5	460.9	485.2	502.4	596.2	856.8	821.6	769.3	789.2	842.4
80°	825.2	496.0	388.7	431.1	426.6	505.1	726.0	717.9	658.4	664.7	697.2
82.5°	388.7	277.8	322.9	370.7	346.3	402.2	589.8	587.1	534.8	484.3	510.5
85°	144.3	147.9	236.3	282.3	240.8	259.7	426.6	414.9	364.4	307.5	340.0
87.5°	32.5	53.2	116.3	147.0	83.9	80.3	172.3	149.7	144.3	85.7	90.2
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)