

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: P596758

Luminaire Tested: **MSA-SA4A-827-U-T4FT**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596758  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-827-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: 11423 lumens  
Efficiency: N/A  
Efficacy: 88.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3

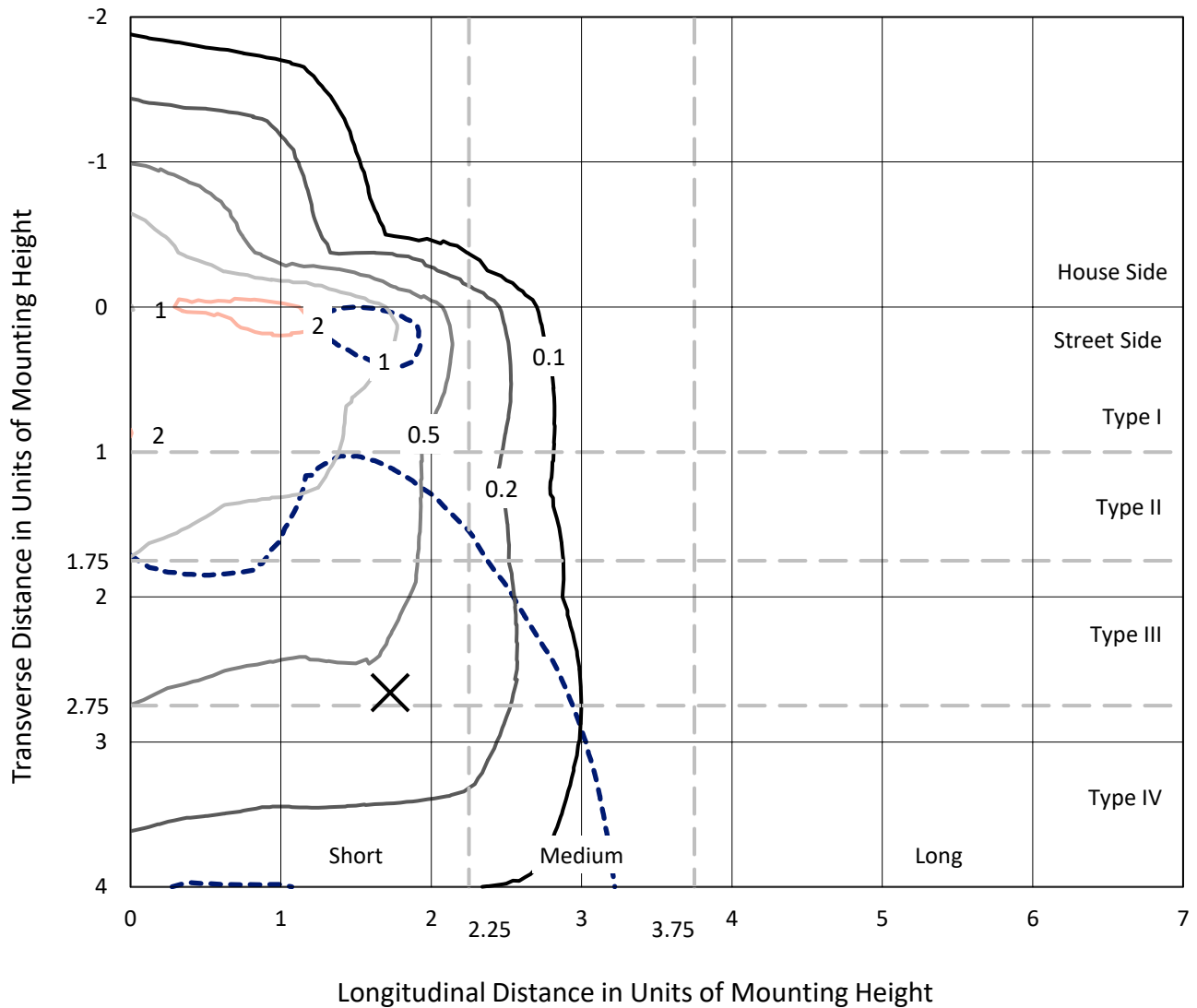
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

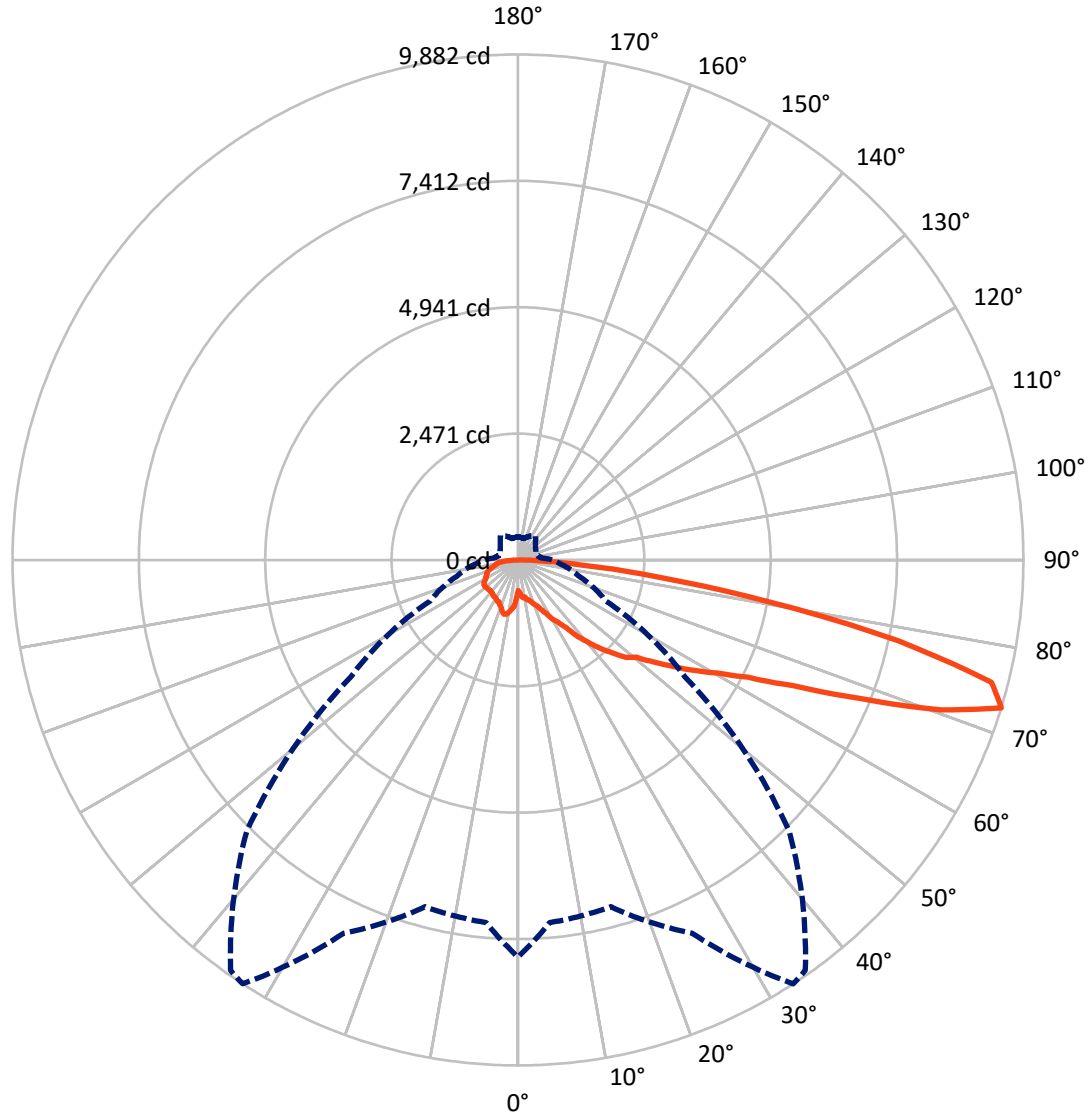
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 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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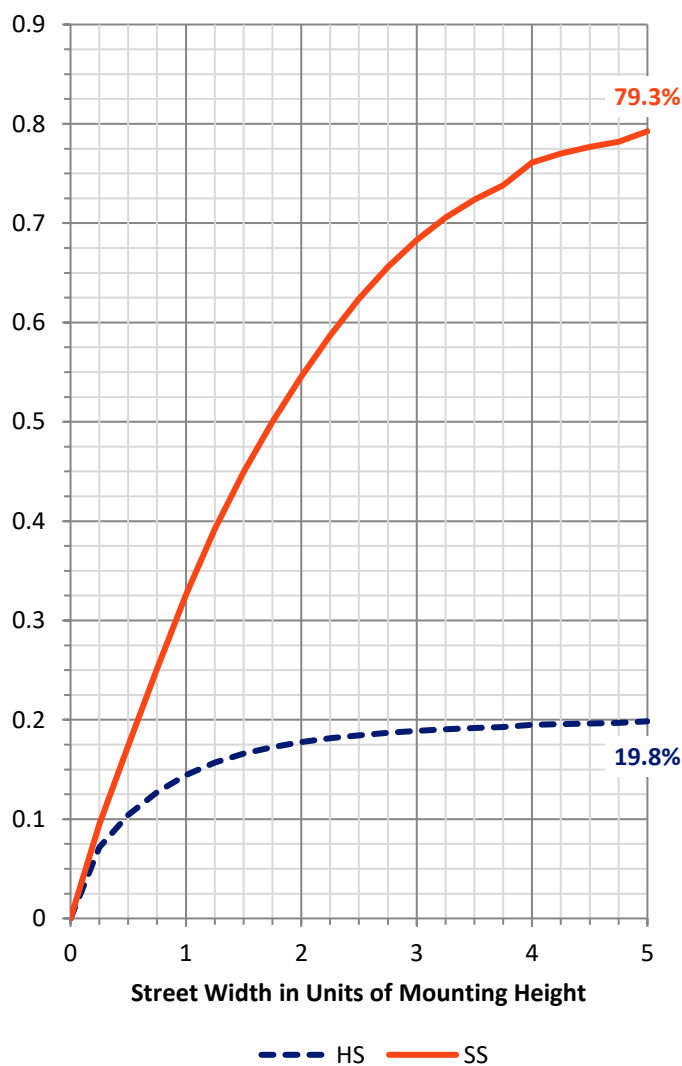
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2310.9	0.0	2310.9
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	9112.2	0.0	9112.2
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	11423.0	0.0	11423.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.4	0.7
10°-20°	304.4	2.7
20°-30°	555.0	4.9
30°-40°	938.9	8.2
40°-50°	1562.0	13.7
50°-60°	2292.4	20.1
60°-70°	2932.5	25.7
70°-80°	2385.9	20.9
80°-90°	369.5	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°	11423.0	100.0
0°-180°	11423.0	100.0

**Coefficient of Utilization**



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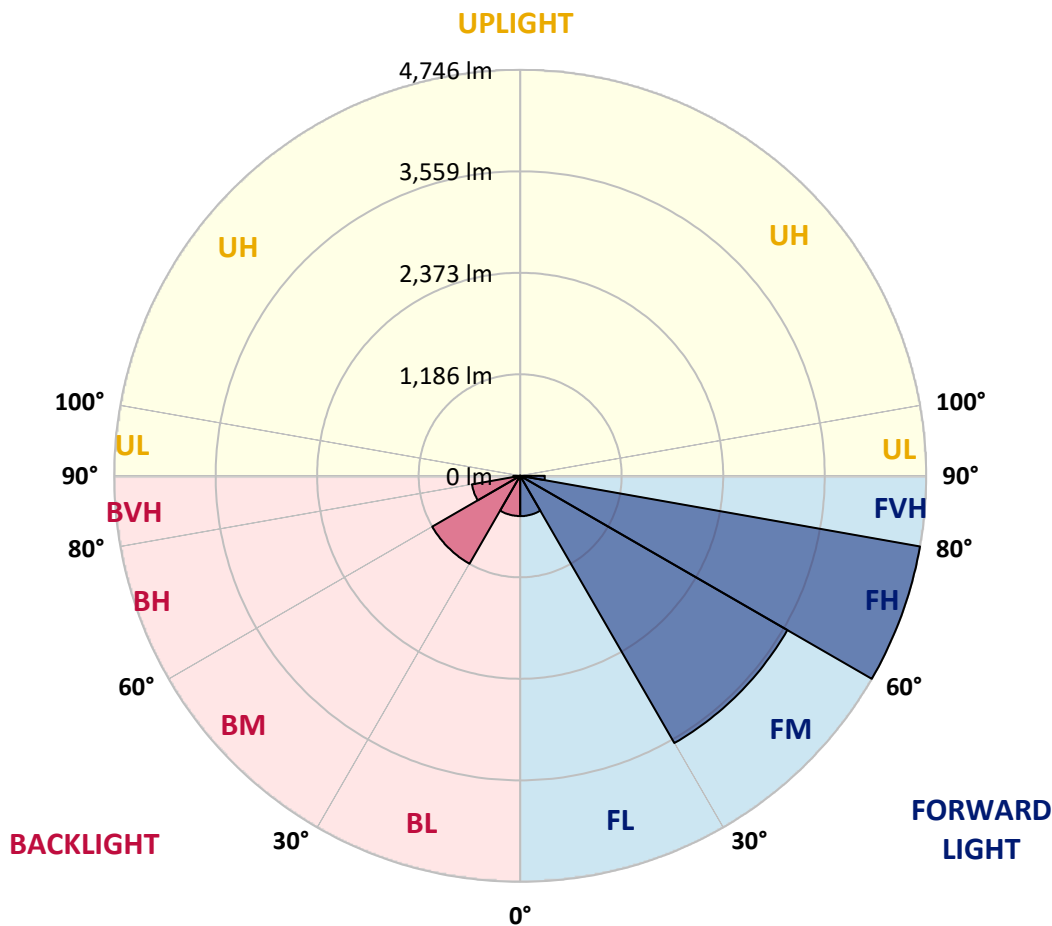
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	471.4	4.1			
FM (30°-60°)	3606.5	31.6			
FH (60°-80°)	4745.8	41.5			G2/5000
FVH (80°-90°)	288.4	2.5			G3/500
BL (0°-30°)	470.3	4.1	B1/500		
BM (30°-60°)	1186.9	10.4	B2/2500		
BH (60°-80°)	572.6	5.0	B2/1000		G2/1000
BVH (80°-90°)	81.1	0.7			G1/100
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°	599.0	599.0	599.0	599.0	599.0	599.0	599.0	599.0	599.0	599.0	599.0
2.5°	679.1	657.7	622.7	621.7	641.2	645.4	658.2	659.2	663.9	656.3	710.3
5°	749.2	726.4	712.7	717.4	708.4	719.3	719.3	750.6	792.3	840.7	909.4
7.5°	765.8	749.2	733.6	745.4	747.3	736.9	746.8	820.3	895.6	944.0	1053.9
10°	732.6	716.0	727.9	731.7	731.2	754.9	806.5	865.3	949.2	1038.3	1097.5
12.5°	726.4	738.3	744.0	750.6	795.6	802.7	880.9	941.6	1025.9	1104.1	1258.1
15°	817.9	833.5	798.5	796.1	810.8	817.4	898.5	959.6	1082.8	1214.1	1352.4
17.5°	948.2	953.9	890.9	858.7	869.6	874.8	910.3	987.1	1062.9	1305.5	1478.0
20°	1074.3	1078.1	959.6	887.6	926.0	931.6	964.8	1008.9	1068.6	1356.7	1562.8
22.5°	1206.5	1182.3	1052.5	961.5	983.8	985.2	1004.6	1028.8	1113.6	1348.6	1666.1
25°	1351.0	1335.9	1172.4	1085.2	1084.2	1064.8	1065.7	1100.3	1161.5	1434.9	1733.9
27.5°	1542.9	1544.8	1307.4	1260.5	1187.1	1174.3	1110.3	1174.7	1244.4	1435.8	1880.3
30°	1791.7	1745.8	1495.5	1419.7	1347.2	1320.2	1233.5	1288.5	1318.8	1517.8	2039.6
32.5°	1994.1	1980.8	1691.7	1577.1	1458.6	1489.9	1394.1	1345.8	1400.3	1659.0	2280.8
35°	2187.9	2144.3	1899.3	1750.0	1625.4	1606.4	1544.4	1552.4	1585.6	1837.7	2595.9
37.5°	2476.9	2453.2	2193.1	1954.3	1896.0	1818.7	1779.4	1804.5	1778.5	2066.6	3068.3
40°	2800.1	2662.7	2438.6	2225.8	2116.8	2062.3	2076.0	2052.4	2032.4	2323.4	3492.0
42.5°	3109.6	2984.5	2601.6	2505.8	2363.7	2386.4	2311.1	2327.7	2384.1	2687.8	3883.9
45°	3446.5	3175.9	2774.5	2690.2	2588.3	2617.2	2677.4	2659.4	2751.8	3117.6	4253.0
47.5°	3614.7	3357.4	2986.8	2849.4	2848.0	2787.8	3154.1	3193.9	3049.4	3436.1	4627.9
50°	3776.8	3523.7	3144.6	3051.8	2984.5	3113.4	3611.4	3519.9	3318.5	3801.4	5040.1
52.5°	4002.3	3713.8	3325.7	3226.6	3310.0	3429.4	3976.3	3958.3	3582.5	4177.2	5398.4
55°	4174.4	3882.9	3598.1	3506.2	3665.4	3782.5	4347.8	4239.3	3808.5	4453.0	5625.4
57.5°	4475.7	4176.7	4000.5	3796.2	4082.4	4080.5	4706.0	4622.2	4050.2	4679.5	5716.8
60°	4954.8	4603.7	4419.4	4183.8	4490.4	4599.9	5115.5	4873.8	4221.3	4822.6	5551.9
62.5°	5627.3	5210.3	4911.2	4678.1	5052.0	5250.1	5621.1	5057.2	4232.2	4781.9	5118.3
65°	6458.9	5951.9	5560.0	5313.6	5930.5	6213.4	6232.4	5170.4	4131.7	4360.6	4206.6
67.5°	7270.2	6700.1	6291.2	6338.1	7238.9	7373.0	6894.9	5265.2	3592.0	3501.5	2921.0
70°	7804.2	7186.3	6913.8	7411.4	8780.0	8642.5	7431.8	5015.5	2828.6	2269.9	1644.8
72.5°	7764.0	7117.1	7019.0	8049.2	9882.2	9796.4	7497.2	3988.6	1894.6	1241.1	820.3
75°	6325.3	5822.5	6045.2	7619.9	9564.7	9560.4	6509.1	2468.9	971.9	637.4	518.4
77.5°	3497.2	3302.0	3956.4	5769.4	7615.6	7654.5	4398.0	1119.8	524.1	451.6	390.5
80°	1225.0	1207.0	1714.5	3113.4	5009.8	5019.3	2045.2	512.3	381.0	341.7	286.7
82.5°	447.8	444.0	710.8	1446.3	2758.4	2752.3	775.7	318.9	282.4	241.7	189.1
85°	178.7	174.9	325.1	642.1	1267.1	1246.8	301.4	181.0	184.8	144.1	92.9
87.5°	49.3	51.2	110.4	200.9	388.1	359.7	75.8	61.1	74.9	58.8	29.4
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°	599.0	599.0	599.0	599.0	599.0	599.0	599.0	599.0	599.0	599.0	599.0
2.5°	719.8	724.6	677.6	694.2	715.6	726.9	732.6	708.4	716.5	750.6	749.2
5°	923.6	904.6	886.6	905.1	892.8	875.2	903.7	902.3	920.7	939.2	943.5
7.5°	1075.7	1051.1	1042.5	1000.8	959.1	916.9	953.4	976.2	980.9	1026.9	1046.3
10°	1130.7	1121.2	1124.5	1069.5	1064.3	1068.6	1034.9	998.5	1020.7	1001.8	1016.0
12.5°	1257.7	1281.4	1222.6	1185.2	1181.8	1155.8	1088.5	1064.8	1039.7	1065.7	1052.5
15°	1359.5	1403.6	1340.6	1274.7	1200.3	1160.0	1102.7	1066.7	1050.1	1055.8	1039.7
17.5°	1508.8	1550.0	1389.9	1288.9	1212.2	1152.9	1065.3	988.5	1029.3	1032.6	1014.1
20°	1607.9	1610.7	1406.5	1253.9	1184.7	1081.9	996.6	929.3	976.2	1024.0	1044.9
22.5°	1704.5	1683.2	1426.8	1225.9	1084.7	985.2	943.5	939.2	974.3	1014.6	1019.3
25°	1777.0	1780.3	1438.7	1215.5	1025.9	890.4	890.4	921.2	952.0	1047.7	1043.0
27.5°	1952.8	1823.5	1392.7	1167.6	944.4	835.0	890.9	932.1	946.8	1050.6	1061.0
30°	2080.8	1996.4	1402.2	1085.6	862.0	808.9	854.9	906.5	947.3	1067.2	1063.4
32.5°	2295.4	2068.5	1424.5	970.5	800.4	799.0	839.7	894.2	943.0	1049.2	1054.8
35°	2532.9	2280.8	1362.4	882.8	785.7	793.3	845.9	867.7	925.0	1042.1	1047.3
37.5°	2972.1	2391.6	1323.1	815.1	776.2	798.0	817.9	851.6	909.4	1006.5	1040.6
40°	3229.9	2620.1	1177.1	775.7	756.3	794.2	804.2	832.6	863.9	963.9	985.7
42.5°	3569.2	2692.1	1052.5	732.1	746.4	778.6	808.4	815.5	836.4	896.6	936.4
45°	3852.1	2746.1	920.3	697.1	712.7	813.2	815.1	811.7	808.0	830.2	862.9
47.5°	4145.0	2891.1	798.5	658.2	699.9	841.6	818.4	788.1	772.4	775.3	805.6
50°	4468.2	2996.3	712.2	626.5	702.8	841.6	834.5	763.9	732.6	724.6	756.3
52.5°	4752.5	3008.6	646.8	600.9	690.9	812.7	845.4	748.7	696.1	676.7	706.5
55°	4907.4	2852.7	599.5	577.7	660.6	786.6	839.7	740.2	652.1	637.4	663.9
57.5°	4904.1	2594.0	559.2	545.4	626.0	750.1	808.0	693.8	625.0	616.5	642.6
60°	4727.4	2290.7	528.4	518.9	590.4	697.1	751.1	663.4	599.0	594.7	623.1
62.5°	4326.5	1977.5	498.5	490.9	557.3	659.6	724.1	629.8	572.0	571.5	598.5
65°	3543.2	1587.5	470.6	468.7	526.5	622.7	698.5	601.3	544.0	553.5	581.0
67.5°	2441.4	1115.5	440.7	446.4	498.0	587.1	679.1	582.4	514.6	534.1	558.7
70°	1339.6	690.0	407.5	418.9	462.0	545.9	648.7	551.6	476.2	506.1	523.2
72.5°	681.4	460.1	366.3	384.3	418.0	485.2	591.9	507.0	435.0	446.4	455.4
75°	457.8	346.4	320.3	340.2	364.4	427.4	525.1	465.3	395.7	394.3	404.2
77.5°	345.9	270.6	272.0	294.8	310.4	375.8	472.0	430.3	362.5	359.2	373.9
80°	253.0	205.2	218.9	242.6	256.8	337.4	437.4	391.4	317.5	304.2	316.5
82.5°	167.8	145.5	162.1	185.8	197.1	282.0	397.1	332.2	258.7	225.1	227.0
85°	79.1	76.3	96.7	108.0	122.7	174.9	297.1	229.8	164.9	136.5	142.6
87.5°	18.0	24.2	31.7	31.3	36.5	46.9	92.4	64.4	47.9	32.7	21.8
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)