

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: P596990

Luminaire Tested: **MSA-SA2D-835-U-SL4**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596990  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2D-835-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10831 lumens  
Efficiency: N/A  
Efficacy: 84.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

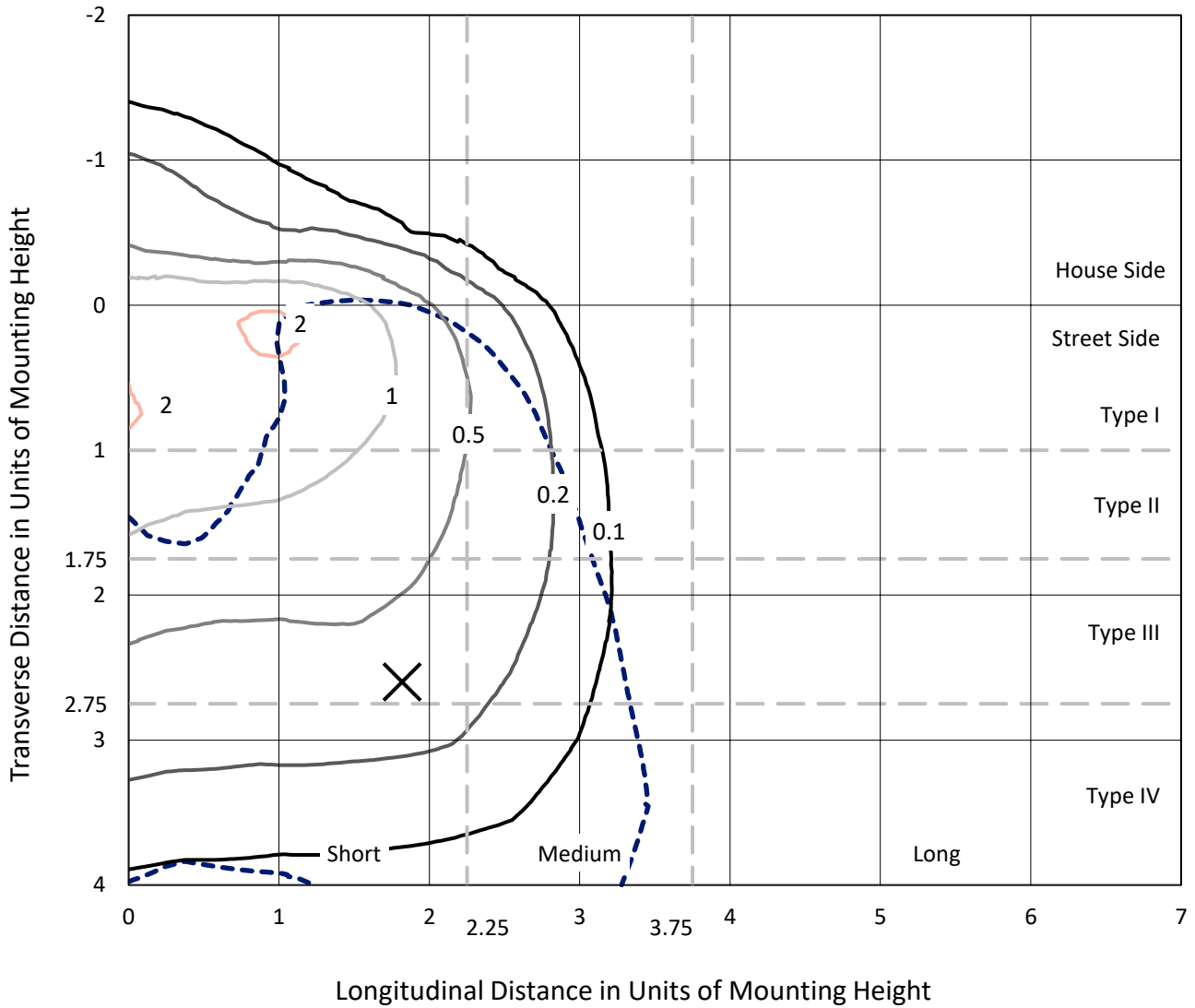
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

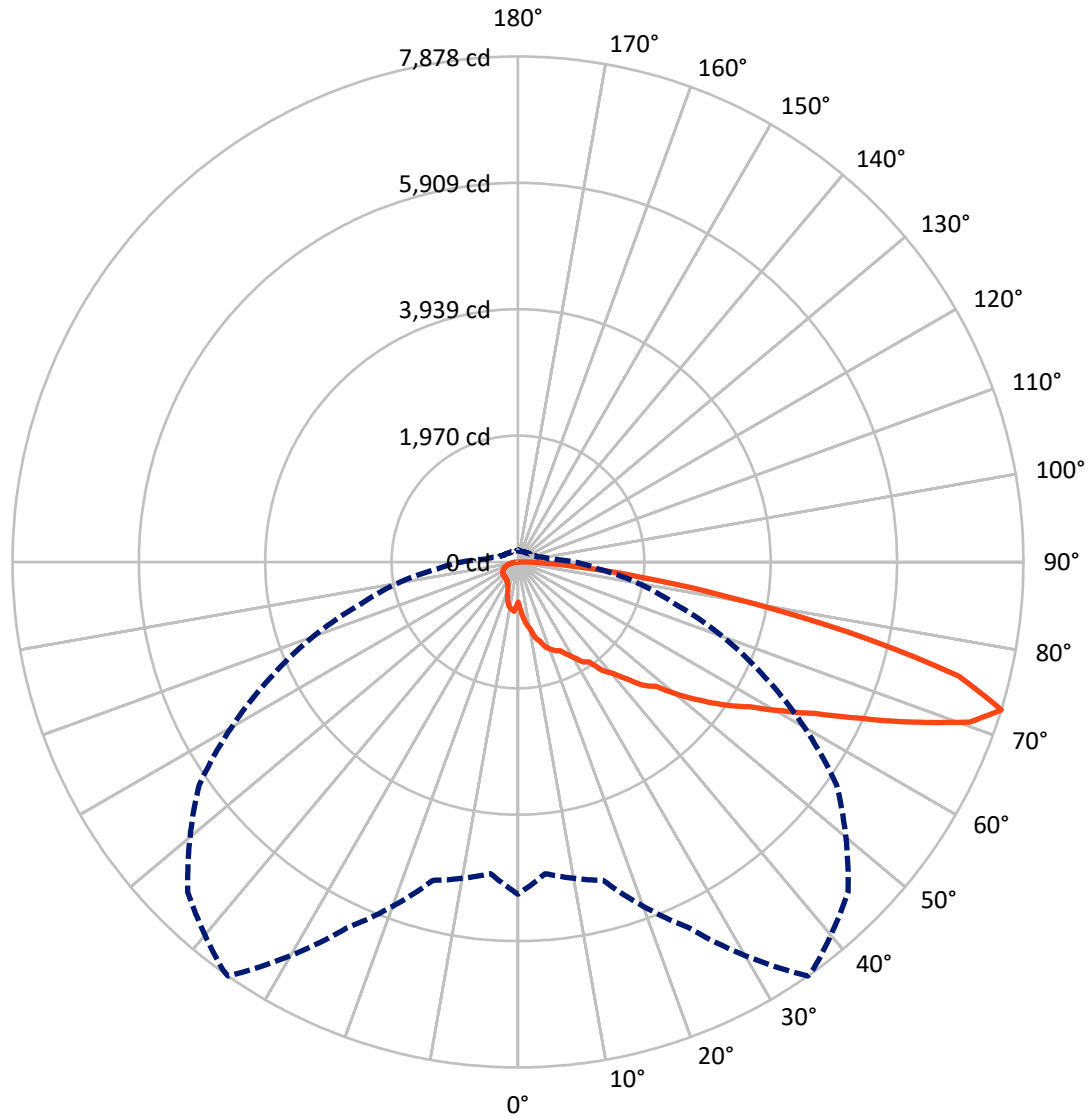
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.2 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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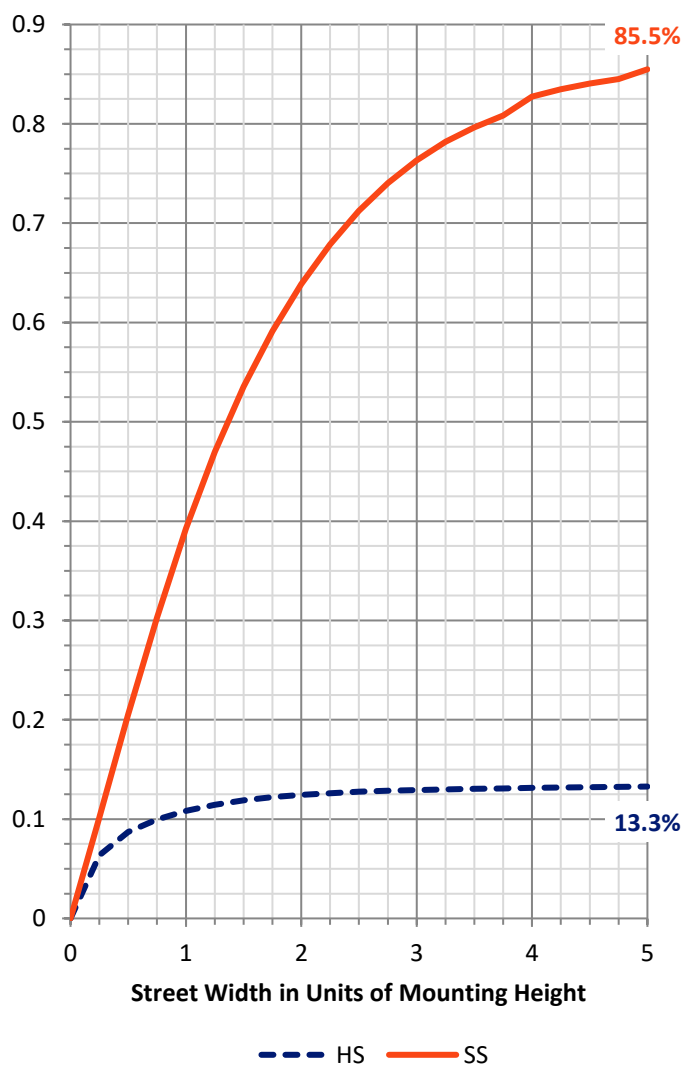
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1453.5	0.0	1453.5
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	9377.5	0.0	9377.5
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	10831.0	0.0	10831.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.2	0.8
10°-20°	293.0	2.7
20°-30°	509.2	4.7
30°-40°	851.0	7.9
40°-50°	1477.0	13.6
50°-60°	2232.8	20.6
60°-70°	2892.6	26.7
70°-80°	2134.4	19.7
80°-90°	357.7	3.3
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°	10831.0	100.0
0°-180°	10831.0	100.0

**Coefficient of Utilization**



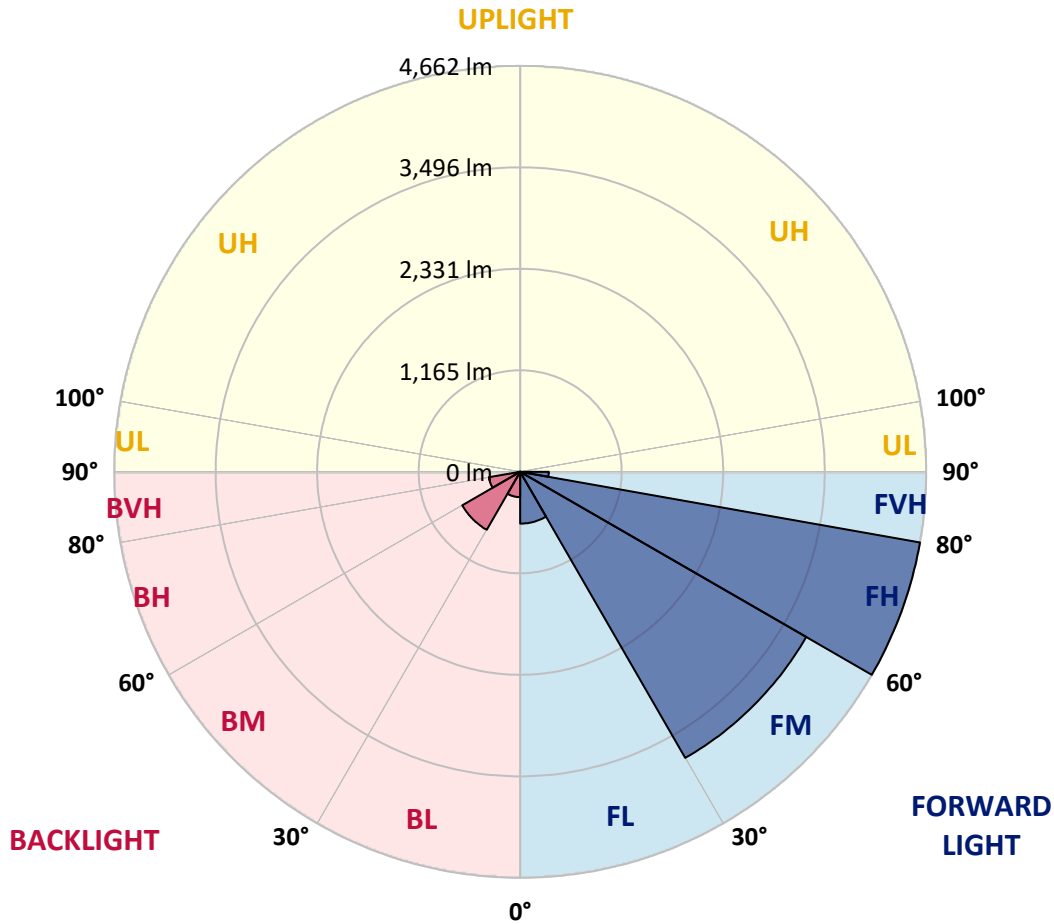
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	594.9	5.5			
FM (30°-60°)	3792.6	35.0			
FH (60°-80°)	4661.6	43.0			G2/5000
FVH (80°-90°)	328.4	3.0			G3/500
BL (0°-30°)	290.5	2.7	B1/500		
BM (30°-60°)	768.2	7.1	B1/1000		
BH (60°-80°)	365.5	3.4	B1/500		G1/500
BVH (80°-90°)	29.3	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9
2.5°	780.8	743.3	711.0	709.6	739.6	751.2	746.6	736.4	724.4	699.0	754.4
5°	978.2	924.6	914.4	902.4	875.1	882.5	838.1	871.9	882.5	907.0	944.0
7.5°	1094.7	1063.2	1038.7	1028.6	981.4	975.9	943.1	991.1	1011.5	1008.2	1063.2
10°	1140.4	1111.8	1113.6	1080.4	1065.1	1071.6	1075.3	1076.2	1088.7	1098.8	1071.1
12.5°	1164.0	1175.1	1215.8	1193.1	1212.6	1220.4	1259.3	1219.5	1220.9	1168.6	1197.3
15°	1282.8	1310.6	1287.0	1286.1	1280.1	1293.0	1326.3	1299.5	1320.3	1303.6	1266.6
17.5°	1426.1	1434.5	1389.2	1370.7	1394.7	1390.5	1382.2	1386.4	1334.6	1430.8	1385.5
20°	1470.1	1502.9	1443.2	1370.7	1450.2	1460.8	1459.0	1440.9	1352.2	1490.9	1446.9
22.5°	1597.6	1553.3	1506.1	1459.9	1500.6	1506.6	1496.4	1453.4	1423.8	1476.5	1511.2
25°	1655.4	1644.8	1584.7	1579.2	1534.3	1513.0	1530.6	1518.1	1489.0	1582.8	1544.5
27.5°	1787.6	1775.2	1636.9	1693.8	1628.6	1623.1	1530.1	1571.8	1600.9	1593.9	1651.3
30°	1937.4	1951.7	1749.7	1806.6	1731.2	1721.1	1627.7	1680.4	1700.3	1706.7	1778.4
32.5°	2103.8	2143.1	1942.5	1895.8	1855.6	1862.5	1783.5	1687.3	1764.5	1915.7	1946.7
35°	2284.1	2300.3	2090.0	2019.7	1914.8	1907.4	1908.8	1920.8	1998.9	2171.3	2195.4
37.5°	2617.4	2542.5	2358.1	2180.1	2145.0	2076.1	2122.8	2159.8	2237.9	2502.3	2603.1
40°	2822.7	2767.2	2486.1	2383.1	2286.0	2292.5	2379.8	2379.4	2563.8	2836.6	2990.5
42.5°	3012.7	2952.1	2687.2	2583.7	2491.7	2514.3	2539.3	2583.2	2936.9	3376.5	3446.8
45°	3165.7	3033.0	2842.6	2819.5	2743.6	2713.6	2819.5	2889.7	3383.0	3813.4	3854.0
47.5°	3269.7	3160.6	2974.3	2954.0	2898.0	2971.5	3260.5	3305.8	3728.8	4252.1	4248.8
50°	3427.8	3278.5	3110.2	3099.6	3257.2	3296.5	3648.8	3644.2	4065.3	4616.3	4540.1
52.5°	3610.0	3421.8	3239.2	3353.4	3593.8	3613.2	3918.8	4043.1	4432.8	4967.7	4768.4
55°	3819.4	3609.0	3432.4	3585.0	3942.8	3885.5	4194.7	4498.5	4892.8	5338.0	4933.5
57.5°	4078.7	3823.5	3680.7	3912.7	4261.3	4312.2	4590.0	4972.3	5263.1	5568.2	5053.7
60°	4352.4	4052.8	3922.0	4143.0	4707.4	4765.7	5037.5	5366.2	5678.2	5785.0	5031.0
62.5°	4613.6	4289.5	4171.2	4443.9	5202.0	5346.3	5546.9	5756.3	6023.5	5837.7	4756.9
65°	4904.3	4579.8	4505.4	4914.5	5872.8	6016.1	6278.2	6215.4	6141.9	5650.9	4303.4
67.5°	5212.2	4882.6	4896.5	5460.5	6663.8	6688.3	7090.9	6673.0	6002.7	5156.3	3542.0
70°	5377.7	5040.2	5183.1	6042.5	7468.6	7433.5	7515.8	6796.0	5435.5	4075.9	2441.3
72.5°	5177.1	4876.1	5137.8	6287.5	7878.2	7840.3	7277.2	6066.0	4249.7	2534.7	1265.7
75°	4383.3	4093.0	4493.4	5604.7	7092.3	7127.4	6193.2	4510.9	2433.0	1019.3	525.6
77.5°	2978.5	2828.7	3171.7	4177.6	5268.2	5389.7	4595.1	2637.8	1021.6	422.1	318.0
80°	1574.1	1502.9	1756.2	2406.6	3335.8	3426.4	2702.0	1313.8	523.3	273.2	227.0
82.5°	855.2	825.2	961.1	1237.5	1895.4	1974.4	1401.2	872.8	352.7	171.0	138.7
85°	574.6	563.1	653.2	664.8	896.4	922.3	734.1	672.2	211.7	83.7	91.5
87.5°	287.5	276.0	343.9	303.7	342.1	342.6	336.5	429.0	53.6	27.7	16.6
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°	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9
2.5°	755.4	739.2	683.3	682.8	691.1	685.6	689.7	667.1	657.4	701.7	699.4
5°	938.9	890.4	843.7	827.5	808.5	767.4	769.7	770.2	763.2	789.6	791.4
7.5°	1046.6	988.4	945.4	859.4	791.9	739.2	746.1	754.0	746.1	781.3	794.2
10°	1062.3	1016.1	964.8	869.1	824.2	776.6	728.6	686.0	680.9	664.8	669.8
12.5°	1155.7	1117.3	1010.1	905.1	852.9	779.9	692.0	643.5	602.8	609.7	596.8
15°	1232.4	1205.2	1076.7	939.4	814.5	723.9	630.6	564.0	527.5	523.3	510.4
17.5°	1336.5	1297.6	1082.7	915.8	765.1	656.4	551.0	475.7	460.0	453.5	447.0
20°	1386.4	1316.6	1060.9	841.8	707.3	576.0	472.5	407.7	403.1	414.7	412.4
22.5°	1429.8	1332.3	1041.5	797.0	617.1	494.6	418.8	376.3	371.2	386.0	388.8
25°	1455.3	1377.1	1020.3	751.2	561.2	434.1	378.6	354.6	355.5	374.9	372.6
27.5°	1569.9	1392.9	966.6	697.1	497.0	389.2	359.2	346.7	341.6	368.4	370.7
30°	1642.0	1495.5	954.6	639.8	449.3	356.4	341.6	336.5	335.6	368.0	370.3
32.5°	1776.1	1529.7	960.2	577.4	406.3	346.2	328.7	328.2	337.5	368.4	372.1
35°	1961.9	1673.9	933.3	541.8	382.8	330.5	318.5	322.2	337.9	371.7	376.8
37.5°	2324.3	1809.8	941.7	508.5	374.9	325.4	315.7	318.0	343.5	380.0	393.9
40°	2611.4	2056.2	928.7	491.9	364.3	324.5	309.7	319.0	343.0	384.6	397.1
42.5°	3027.5	2252.7	930.1	475.2	363.8	320.8	308.8	319.9	342.1	380.5	397.6
45°	3384.4	2428.8	950.0	465.5	359.2	326.8	307.4	321.3	336.1	365.7	384.6
47.5°	3677.0	2625.3	970.3	456.3	357.3	332.4	306.0	311.6	325.9	349.0	366.1
50°	3915.5	2763.5	996.2	454.4	357.3	329.6	302.3	301.9	313.9	332.4	348.6
52.5°	4101.4	2861.1	1013.8	456.7	357.3	319.0	297.7	294.0	301.4	314.8	331.0
55°	4235.9	2891.1	999.5	462.7	356.9	309.3	289.4	286.2	289.9	299.1	314.4
57.5°	4290.0	2812.1	913.9	452.1	356.9	302.3	279.2	275.5	279.2	286.2	301.4
60°	4154.5	2557.8	790.5	424.8	349.9	293.1	267.7	265.3	270.9	276.9	291.7
62.5°	3814.7	2219.9	658.8	392.5	335.6	285.2	256.6	257.0	265.8	274.1	288.9
65°	3286.8	1811.2	549.2	359.7	317.6	272.7	245.0	248.2	260.7	271.8	286.6
67.5°	2586.5	1342.0	462.3	327.8	292.2	252.4	232.1	233.0	241.8	252.4	266.7
70°	1728.9	853.8	380.0	290.3	258.9	226.1	212.2	209.0	206.6	215.9	228.4
72.5°	876.9	504.3	312.0	248.2	222.8	197.4	186.8	178.4	172.0	177.5	187.2
75°	459.5	352.7	251.9	206.2	184.0	167.8	159.9	148.9	144.2	147.5	154.4
77.5°	325.0	276.0	203.9	163.2	149.8	133.1	134.5	123.0	119.3	121.1	128.5
80°	249.6	218.7	156.7	123.4	115.6	99.4	104.0	97.1	92.5	91.5	97.1
82.5°	170.1	164.6	111.4	86.4	80.9	69.3	75.8	73.0	67.0	63.3	66.1
85°	114.6	109.1	68.0	49.9	47.6	36.1	46.2	44.4	39.3	33.7	34.2
87.5°	19.9	36.5	19.4	12.5	11.6	4.2	10.6	10.2	9.2	4.6	3.7
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)