

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: P596650

Luminaire Tested: **MSA-SA2D-827-U-T4W**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596650  
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-SA2D-827-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10053 lumens  
Efficiency: N/A  
Efficacy: 77.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G2

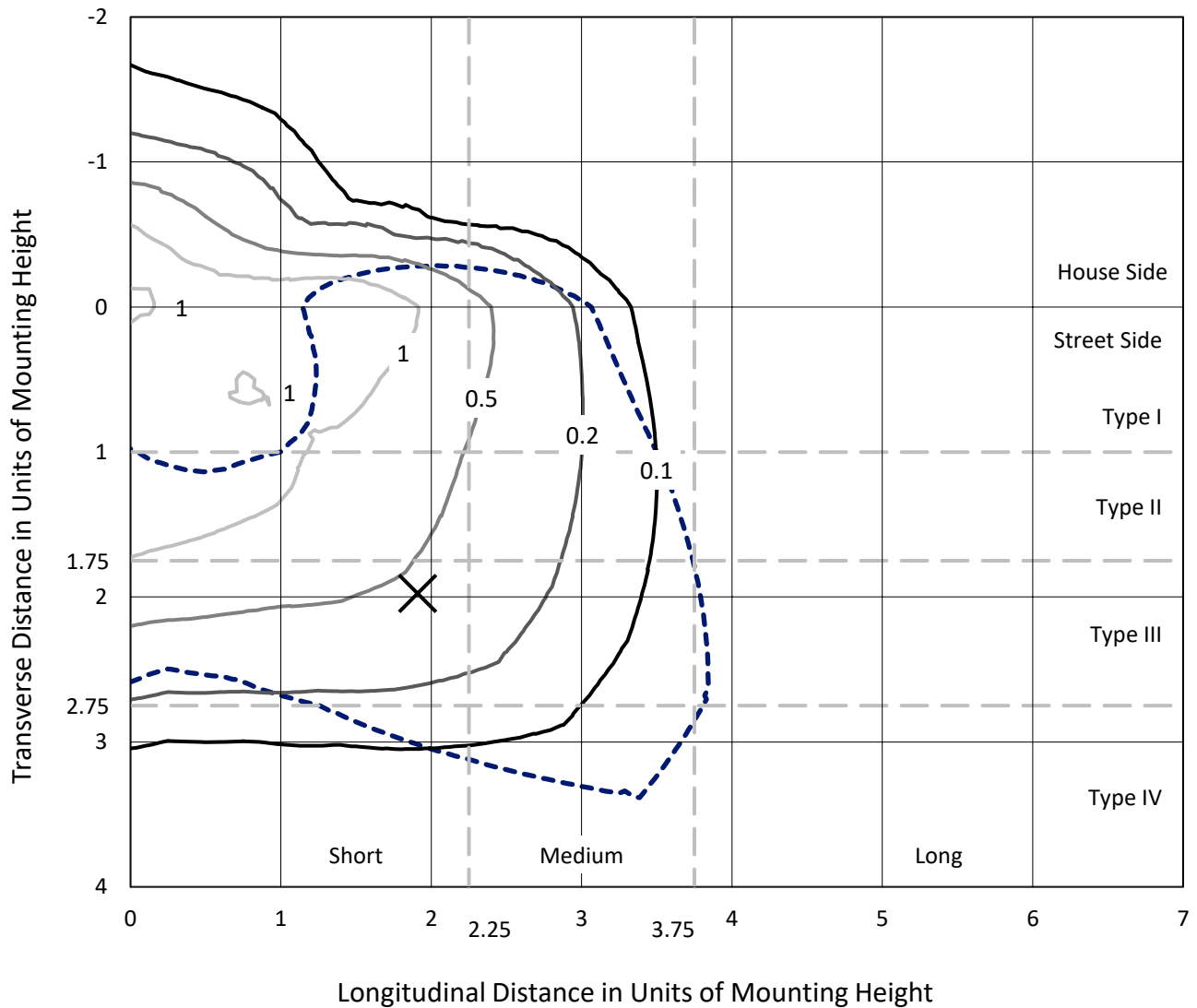
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

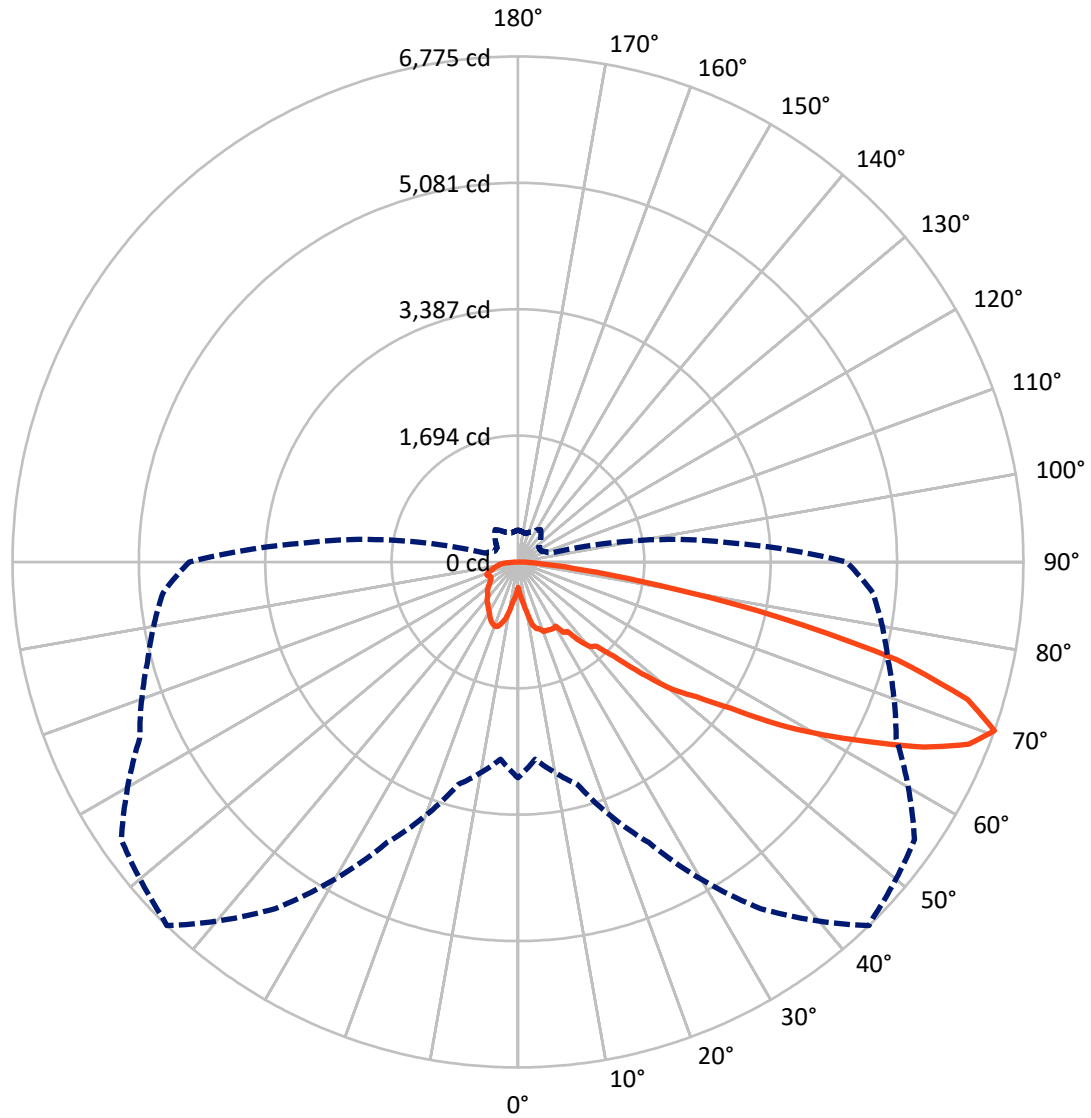
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2 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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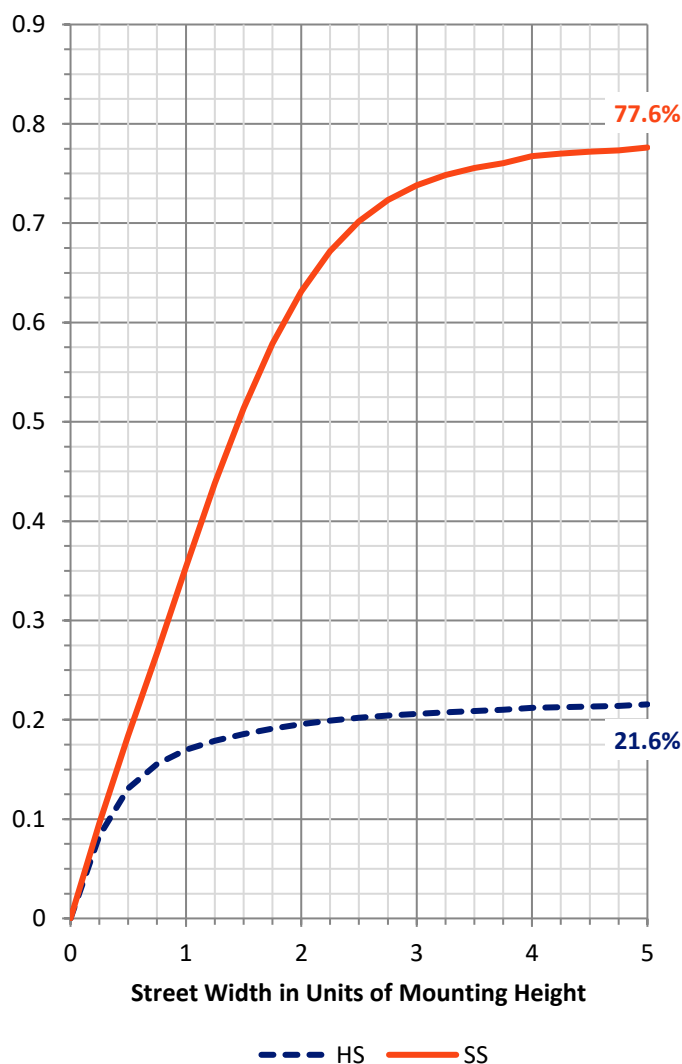
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2218.1	0.0	2218.1
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	7834.9	0.0	7834.9
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	10053.0	0.0	10053.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.6	0.5
10°-20°	246.7	2.5
20°-30°	461.1	4.6
30°-40°	740.1	7.4
40°-50°	1249.2	12.4
50°-60°	2226.0	22.1
60°-70°	3044.8	30.3
70°-80°	1790.5	17.8
80°-90°	241.1	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°	10053.0	100.0
0°-180°	10053.0	100.0

**Coefficient of Utilization**



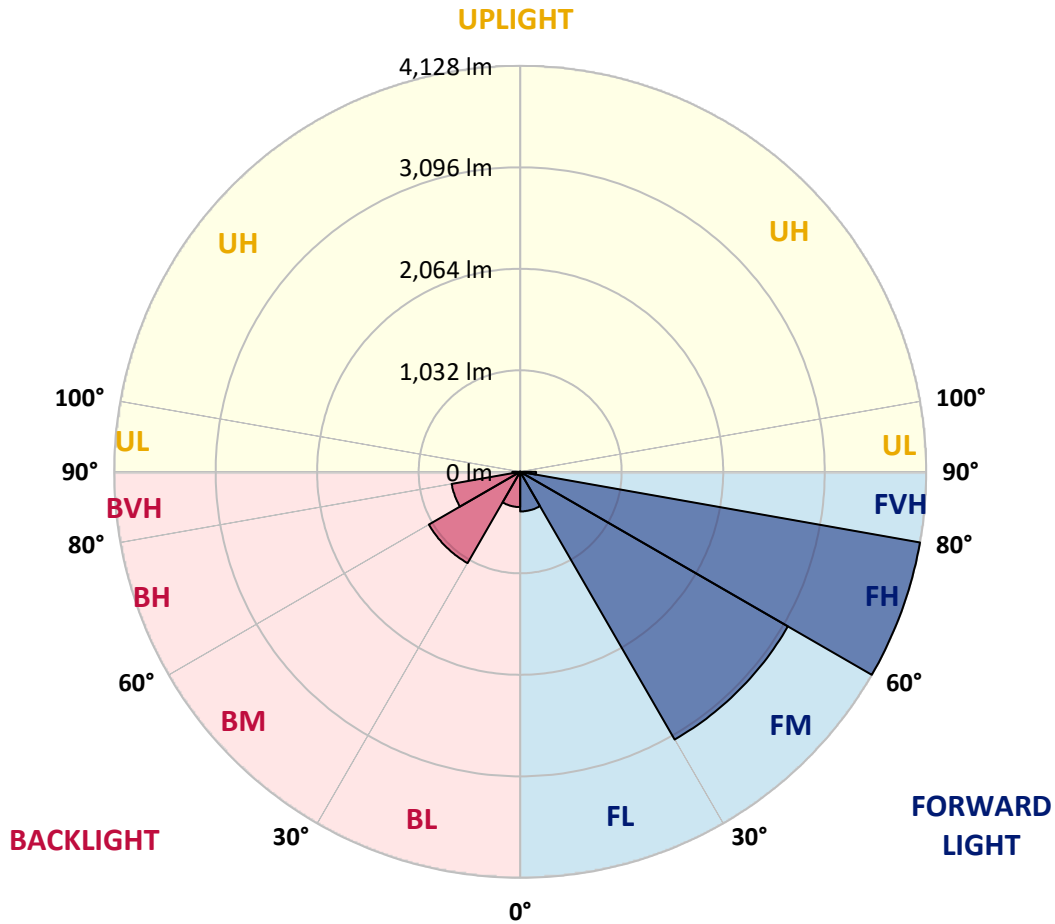
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	402.9	4.0			
FM (30°-60°)	3143.3	31.3			
FH (60°-80°)	4128.1	41.1			G2/5000
FVH (80°-90°)	160.7	1.6			G2/225
BL (0°-30°)	358.5	3.6	B1/500		
BM (30°-60°)	1071.9	10.7	B2/2500		
BH (60°-80°)	707.3	7.0	B2/1000		G2/1000
BVH (80°-90°)	80.4	0.8			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7
2.5°	414.7	406.4	386.6	393.2	401.5	404.8	404.0	403.1	390.4	385.8	408.5
5°	563.5	545.3	530.9	525.1	506.2	491.3	482.3	506.2	502.5	508.7	524.3
7.5°	703.6	692.1	659.5	648.0	609.2	583.7	580.8	599.8	604.7	594.8	621.6
10°	793.9	774.1	767.5	739.9	713.1	709.0	706.5	697.9	685.9	685.1	661.2
12.5°	864.0	874.3	879.6	847.9	848.7	863.6	855.7	820.7	800.5	765.0	767.9
15°	989.7	1004.5	962.1	941.9	903.1	925.4	922.5	893.2	890.4	867.3	840.5
17.5°	1099.3	1105.9	1035.0	988.9	975.7	943.5	952.2	953.0	915.1	956.3	932.4
20°	1108.4	1131.9	1050.3	958.4	997.9	993.8	995.1	986.8	936.9	1004.9	995.9
22.5°	1152.9	1117.1	1043.7	976.5	986.8	993.0	998.8	988.9	986.0	1023.9	1051.5
25°	1144.7	1133.1	1058.9	1002.1	1003.3	1004.5	1007.4	1037.1	1033.8	1085.3	1099.8
27.5°	1221.8	1204.0	1063.5	1049.5	1017.3	1010.3	990.5	1052.3	1100.6	1099.3	1178.9
30°	1368.5	1350.4	1169.0	1128.2	1070.1	998.4	1036.3	1118.7	1156.6	1169.4	1270.4
32.5°	1597.7	1627.4	1376.8	1212.3	1140.1	1124.5	1120.4	1112.1	1206.1	1269.2	1361.1
35°	1926.6	1903.1	1621.6	1392.4	1213.9	1146.7	1155.8	1206.1	1317.8	1358.6	1443.5
37.5°	2303.4	2254.7	1935.3	1596.5	1426.6	1342.5	1312.4	1361.1	1385.8	1418.0	1591.5
40°	2686.3	2567.6	2243.2	1864.8	1554.4	1490.9	1464.6	1404.8	1462.9	1528.0	1748.6
42.5°	3056.1	2964.1	2578.3	2185.1	1769.6	1543.3	1528.9	1470.3	1650.5	1719.3	1975.3
45°	3443.5	3230.4	2921.7	2546.6	2084.1	1800.1	1778.6	1673.5	1904.4	2047.8	2295.1
47.5°	3704.0	3506.6	3236.2	2840.1	2347.5	2229.6	2188.8	2009.1	2218.5	2404.8	2789.4
50°	3950.5	3747.3	3463.3	3161.2	2824.4	2688.8	2601.8	2302.6	2609.6	2913.0	3422.9
52.5°	4303.4	4121.6	3727.1	3484.7	3336.8	3003.3	2938.6	2774.1	3067.2	3476.5	4115.4
55°	4680.5	4432.8	4075.4	3941.1	3881.3	3454.2	3401.5	3296.8	3676.4	4053.2	4788.5
57.5°	4847.1	4588.6	4391.6	4311.2	4306.3	4109.6	4049.1	3976.1	4299.3	4547.8	5422.1
60°	4979.4	4702.0	4623.2	4668.2	4831.4	4702.0	4623.2	4558.9	4806.3	5036.7	5939.0
62.5°	4955.1	4676.8	4717.2	4854.1	5270.8	5308.7	5248.1	5092.3	5308.7	5437.3	6235.4
65°	4562.7	4305.4	4540.8	4865.6	5679.3	5982.3	5979.0	5571.3	5646.3	5646.3	6204.0
67.5°	3875.1	3608.8	3994.2	4763.8	5961.7	6516.1	6516.9	6079.1	5677.2	5625.3	5719.3
70°	2893.7	2652.5	3085.7	4148.8	5670.2	6774.5	6737.0	6488.9	5592.3	5138.5	4777.4
72.5°	1728.4	1572.5	1971.1	3020.2	4836.8	6299.3	6399.0	6016.9	5119.5	4273.3	3415.1
75°	784.8	717.2	926.2	1735.0	3453.0	5254.3	5362.7	5077.9	4066.4	3073.4	1973.6
77.5°	335.9	317.8	404.4	769.6	1904.0	3593.2	3815.3	3629.0	2755.2	1786.1	873.0
80°	216.0	204.5	248.6	370.2	884.2	1941.5	2132.7	2063.1	1403.5	694.6	307.5
82.5°	129.0	125.3	166.1	232.5	482.3	854.5	962.9	988.5	582.9	311.6	176.0
85°	70.5	71.3	91.1	141.0	289.4	332.6	356.1	387.5	274.5	180.5	85.3
87.5°	23.5	27.2	36.7	57.3	103.1	94.0	94.4	109.6	115.8	75.0	27.2
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°	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7
2.5°	412.2	404.8	385.8	387.1	394.1	395.7	397.8	385.8	383.3	406.0	408.1
5°	526.8	502.5	491.3	487.6	476.9	473.2	493.0	502.1	511.1	528.9	537.5
7.5°	618.7	591.5	571.3	552.8	537.1	528.0	561.4	587.0	602.6	638.9	655.4
10°	660.8	637.3	629.8	615.0	627.0	654.2	660.3	661.2	695.8	695.0	702.0
12.5°	744.4	729.2	704.9	710.2	741.5	769.6	761.7	773.7	786.1	815.7	802.1
15°	820.7	816.6	793.9	797.6	803.8	838.8	843.4	855.3	874.3	897.8	881.7
17.5°	914.7	913.0	857.8	852.8	867.3	901.5	890.8	869.7	932.4	957.5	950.9
20°	978.6	966.2	895.3	874.3	911.0	915.5	903.1	869.7	924.2	979.0	993.8
22.5°	1031.7	1017.3	944.4	903.1	895.7	897.8	897.8	891.6	918.4	963.3	962.9
25°	1074.6	1088.2	995.5	955.9	916.3	866.9	860.7	866.0	881.3	967.8	965.0
27.5°	1182.2	1144.7	1012.8	983.1	901.9	824.0	840.9	849.1	854.1	948.9	964.6
30°	1252.3	1263.8	1074.6	999.2	880.9	776.2	781.9	805.9	834.7	946.8	951.4
32.5°	1346.7	1321.9	1171.1	972.4	824.8	747.3	736.6	768.8	811.6	913.4	925.8
35°	1434.5	1463.7	1211.9	967.4	785.7	704.0	715.6	726.7	771.2	876.3	890.8
37.5°	1640.6	1573.8	1326.5	943.5	753.1	682.2	669.8	686.7	724.6	805.9	839.2
40°	1797.2	1801.3	1351.2	913.4	690.8	650.9	624.5	641.4	657.5	722.2	736.6
42.5°	2091.1	2001.2	1411.8	847.5	651.7	603.9	589.0	596.5	598.9	626.1	650.0
45°	2465.0	2254.3	1435.7	758.9	600.2	584.5	554.4	550.7	537.1	540.8	561.8
47.5°	2982.3	2649.2	1418.4	664.5	554.4	559.4	516.1	499.2	480.2	484.7	504.5
50°	3651.3	3153.8	1417.1	584.5	523.1	526.4	490.9	460.4	441.5	450.9	468.3
52.5°	4401.9	3659.9	1422.9	529.7	488.9	487.2	474.4	437.3	422.1	432.0	451.8
55°	5120.0	4095.2	1465.8	495.1	453.4	456.3	461.3	429.9	413.0	422.1	442.7
57.5°	5744.8	4439.0	1449.7	458.4	420.4	433.6	446.8	419.6	406.8	420.0	440.6
60°	6181.8	4598.5	1322.8	423.3	396.1	414.3	439.8	418.4	416.7	445.2	469.9
62.5°	6341.3	4539.6	1075.4	395.7	381.7	411.8	455.9	445.6	447.2	482.3	516.5
65°	6108.4	4229.6	802.1	378.0	370.6	423.7	493.0	461.7	439.0	467.8	499.2
67.5°	5446.0	3678.5	586.1	362.7	357.8	442.7	527.2	460.0	418.0	447.2	472.8
70°	4406.0	2903.5	453.8	343.4	340.9	429.9	530.5	447.7	395.3	414.3	428.7
72.5°	3019.0	1988.0	375.9	324.8	311.6	380.9	503.7	420.0	368.1	379.2	391.2
75°	1687.1	1115.8	316.2	301.7	272.9	339.2	472.4	403.5	347.9	351.2	367.7
77.5°	757.2	482.7	268.3	271.2	237.8	300.1	431.6	377.2	317.0	309.6	326.1
80°	286.5	235.4	217.6	229.2	199.9	260.1	389.1	353.3	284.4	274.9	284.4
82.5°	166.1	142.6	161.6	176.4	158.7	239.1	371.4	331.4	250.6	226.7	235.0
85°	77.1	73.8	96.9	114.6	110.9	186.3	317.8	249.4	178.5	150.9	166.9
87.5°	20.2	22.7	34.2	40.4	41.2	63.9	122.4	92.7	69.7	52.8	50.7
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)