

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: P596634

Luminaire Tested: **MSA-SA2D-827-U-SL2**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596634  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2D-827-U-SL2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9850 lumens  
Efficiency: N/A  
Efficacy: 76.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B2 - U0 - G3

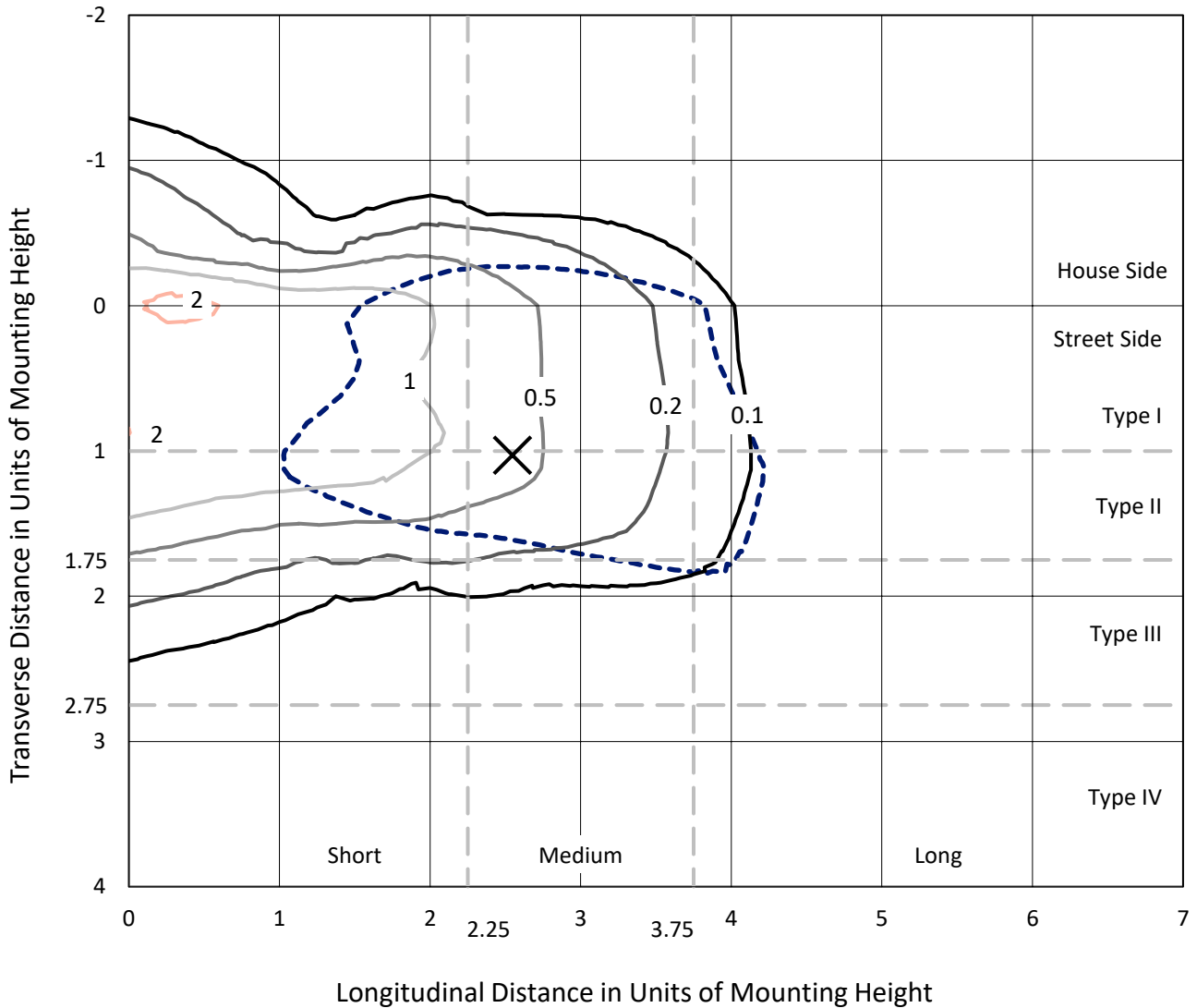
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

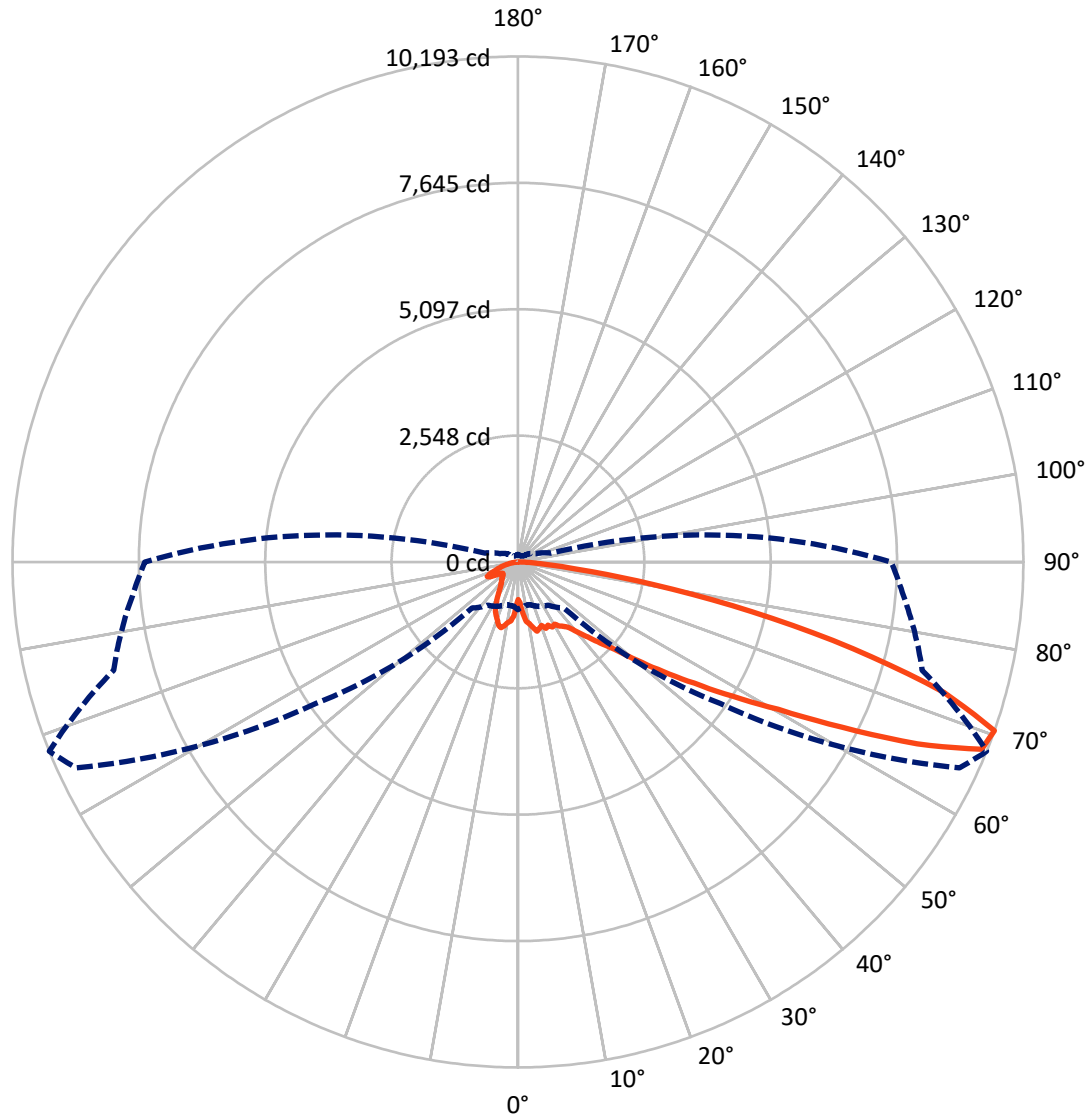
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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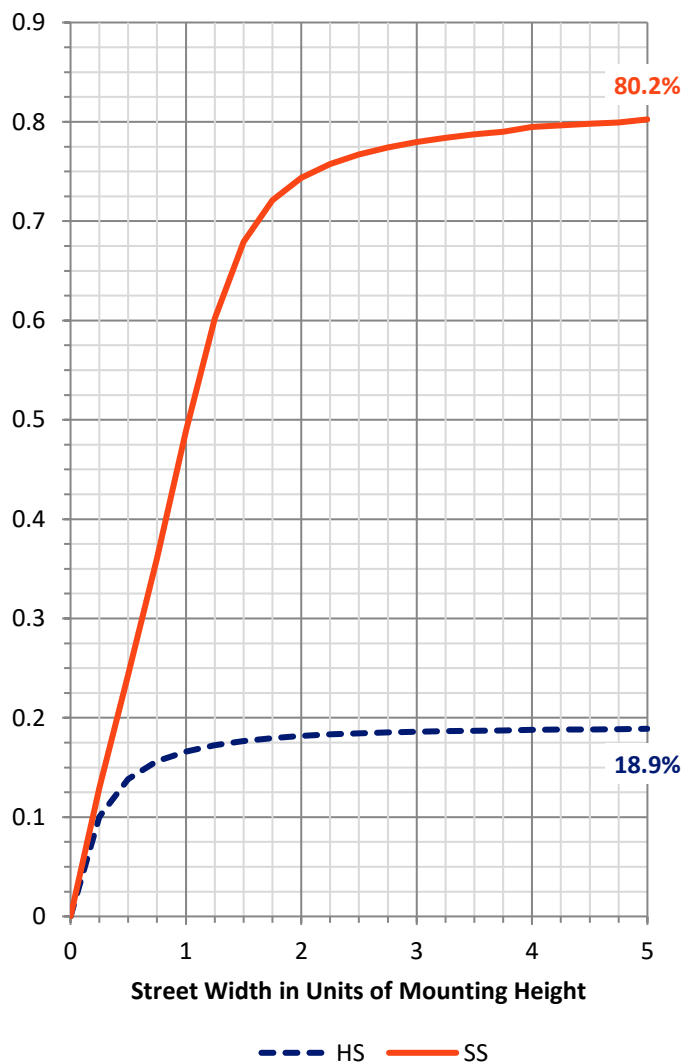
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1880.6	0.0	1880.6
	% Fixture	19.1	0.0	19.1
<b>Street Side</b>	Lumens	7969.4	0.0	7969.4
	% Fixture	80.9	0.0	80.9
<b>Total</b>	Lumens	9850.0	0.0	9850.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.9	1.0
10°-20°	328.8	3.3
20°-30°	500.1	5.1
30°-40°	763.9	7.8
40°-50°	1313.4	13.3
50°-60°	2174.0	22.1
60°-70°	2680.2	27.2
70°-80°	1721.7	17.5
80°-90°	267.1	2.7
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°	9850.0	100.0
0°-180°	9850.0	100.0

**Coefficient of Utilization**



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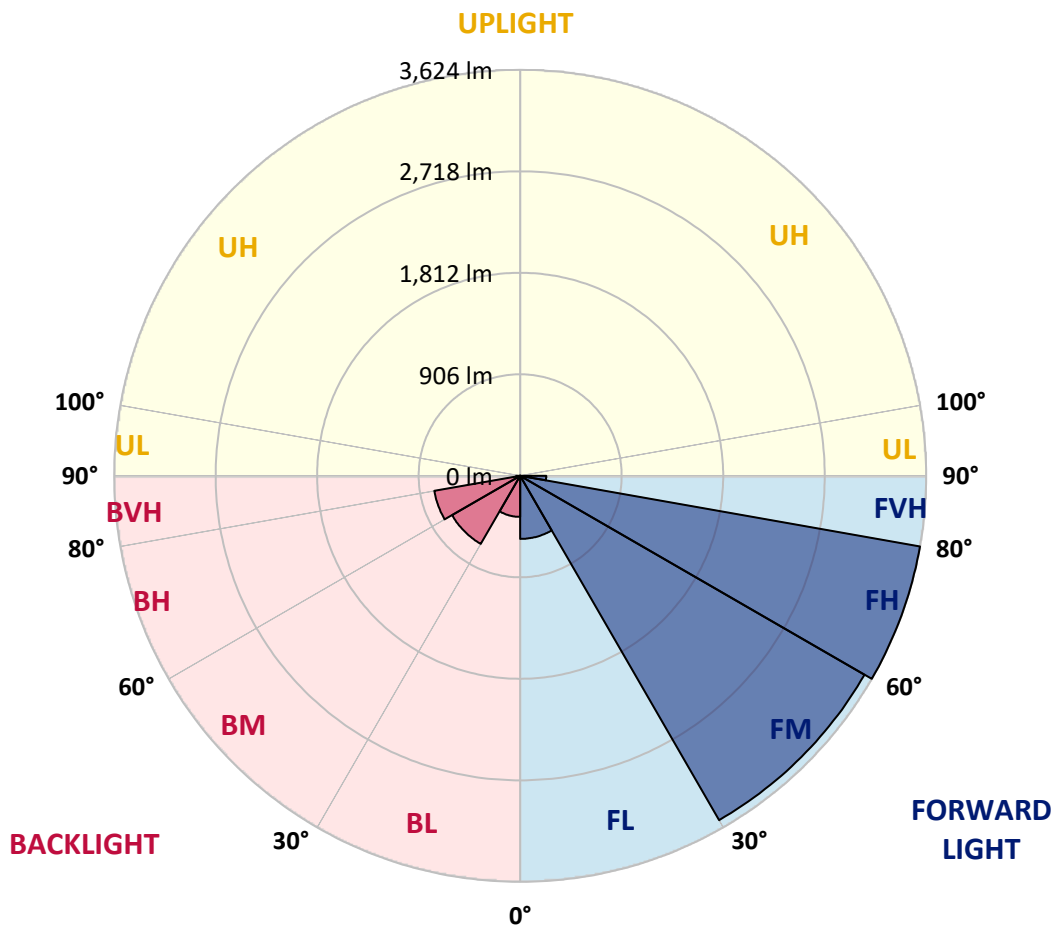
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	563.2	5.7			
FM (30°-60°)	3549.3	36.0			
FH (60°-80°)	3624.0	36.8			G2/5000
FVH (80°-90°)	232.8	2.4			G3/500
BL (0°-30°)	366.5	3.7	B1/500		
BM (30°-60°)	702.0	7.1	B1/1000		
BH (60°-80°)	777.9	7.9	B2/1000		G2/1000
BVH (80°-90°)	34.3	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	755.2	755.2	755.2	755.2	755.2	755.2	755.2	755.2	755.2	755.2	755.2
2.5°	867.8	832.7	797.3	814.6	842.2	866.5	861.6	864.5	831.1	826.6	914.4
5°	1022.4	962.2	960.9	961.8	964.2	936.2	1004.6	1040.1	1047.9	1084.2	1170.4
7.5°	1076.0	1051.6	1026.9	1039.3	1007.9	1010.8	1094.9	1187.3	1209.1	1235.5	1353.4
10°	1064.8	1041.7	1049.2	1051.2	1057.0	1103.6	1157.6	1246.2	1264.8	1348.9	1379.4
12.5°	1066.5	1062.4	1097.0	1098.2	1160.1	1243.7	1265.2	1346.8	1354.2	1416.1	1543.4
15°	1123.0	1151.4	1132.0	1142.3	1154.3	1254.5	1285.4	1402.5	1447.0	1526.5	1622.2
17.5°	1233.0	1241.3	1183.1	1167.9	1207.1	1237.6	1308.1	1358.8	1405.3	1627.5	1759.5
20°	1258.6	1280.8	1211.6	1132.9	1215.7	1258.2	1307.2	1330.3	1366.6	1642.4	1829.5
22.5°	1368.2	1322.1	1238.4	1170.0	1197.2	1238.4	1273.8	1360.8	1456.1	1599.9	1899.6
25°	1430.5	1403.7	1329.1	1255.7	1232.6	1233.9	1302.3	1380.2	1413.2	1662.2	1913.6
27.5°	1581.0	1538.1	1370.3	1356.3	1269.3	1201.7	1306.8	1428.0	1485.7	1613.5	1982.1
30°	1769.4	1736.8	1516.7	1498.1	1365.4	1247.5	1364.5	1463.5	1455.2	1645.3	2029.5
32.5°	1921.9	1976.3	1754.1	1607.8	1513.4	1400.4	1346.4	1457.3	1539.3	1719.1	2109.9
35°	2139.6	2190.7	1939.2	1840.3	1635.4	1471.3	1473.0	1542.2	1592.9	1805.2	2199.7
37.5°	2516.3	2471.4	2269.0	2112.8	1981.7	1736.8	1663.4	1639.1	1679.9	1910.8	2375.8
40°	2788.0	2750.1	2511.8	2422.8	2167.6	2025.4	1824.2	1801.1	1873.2	2019.6	2519.6
42.5°	3110.0	3042.4	2820.6	2747.2	2480.5	2224.1	2021.2	2034.4	2069.5	2224.9	2714.2
45°	3437.7	3273.6	3147.9	3142.1	2964.0	2609.9	2337.4	2326.7	2328.0	2527.1	2932.7
47.5°	3697.8	3550.3	3406.4	3338.0	3248.1	3277.4	2796.7	2670.9	2633.0	2831.3	3260.5
50°	3873.9	3704.0	3541.2	3525.1	3765.0	3922.9	3227.9	3093.5	3117.0	3266.6	3697.4
52.5°	3877.6	3676.0	3506.2	3618.7	4183.9	4409.8	3970.8	3595.2	3670.2	3772.0	4267.6
55°	3608.0	3399.0	3288.5	3544.9	4347.5	4987.4	5014.6	4399.1	4312.5	4350.0	4949.0
57.5°	3039.5	2828.4	2764.1	3071.2	4037.1	5544.3	6275.2	5359.6	5105.7	4949.0	5647.4
60°	2288.0	2105.3	2065.4	2261.2	3347.0	5380.6	7295.9	6555.1	6037.8	5618.1	6347.8
62.5°	1715.8	1584.7	1524.5	1552.5	2316.0	4848.4	7966.2	8065.6	7333.0	6348.6	7032.1
65°	1394.2	1288.3	1234.7	1198.4	1440.4	3749.0	7845.0	9337.0	8846.0	7115.8	7564.7
67.5°	1164.6	1070.6	1045.9	1081.3	1138.6	2175.0	6896.9	10048.1	10081.5	7872.7	7876.0
70°	966.7	897.0	888.0	988.6	1064.0	1312.6	4981.6	9824.6	10193.2	8440.3	7803.0
72.5°	747.0	709.5	708.2	866.1	1057.0	1118.8	2966.5	8487.3	8982.4	8258.9	7089.0
75°	518.2	492.2	512.0	711.9	1032.7	1134.9	1693.1	6610.8	6981.4	7028.0	5678.7
77.5°	356.6	334.7	356.2	514.9	922.2	1162.1	1184.4	4780.0	4821.2	4712.8	3252.6
80°	248.2	232.9	249.4	364.4	717.7	1150.2	1008.4	3009.4	2761.2	2103.3	1041.3
82.5°	153.8	149.2	167.4	259.7	505.4	1046.3	955.6	1552.9	1185.6	580.4	371.8
85°	80.8	74.2	97.3	169.4	316.2	821.2	895.4	708.7	457.6	206.1	149.2
87.5°	23.9	21.4	37.5	68.4	134.0	368.1	512.4	300.5	170.7	60.6	46.6
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°	755.2	755.2	755.2	755.2	755.2	755.2	755.2	755.2	755.2	755.2	755.2
2.5°	920.5	916.0	855.0	862.8	876.0	879.3	878.9	856.6	833.1	898.7	896.6
5°	1172.4	1131.6	1101.1	1094.5	1057.0	1019.5	1032.7	1028.1	1022.4	1052.1	1055.8
7.5°	1353.8	1297.3	1261.9	1170.8	1084.2	1009.2	1033.1	1040.5	1025.7	1079.3	1095.3
10°	1401.6	1357.1	1318.8	1201.7	1153.9	1110.2	1045.5	971.7	961.8	930.9	934.6
12.5°	1524.9	1518.7	1388.0	1285.0	1222.7	1135.7	996.0	906.5	829.9	833.6	811.3
15°	1622.2	1625.5	1468.4	1324.1	1157.2	1024.4	859.9	748.6	669.9	654.2	638.2
17.5°	1752.9	1746.3	1475.0	1277.1	1065.7	871.1	669.5	559.0	545.8	554.9	540.9
20°	1809.8	1751.6	1433.0	1160.5	922.6	661.7	505.8	447.3	472.8	509.1	509.9
22.5°	1860.9	1761.5	1411.1	1066.5	732.1	481.1	406.1	395.3	425.4	474.5	478.6
25°	1858.8	1807.3	1372.0	971.7	567.7	375.6	352.9	360.7	396.6	447.7	450.6
27.5°	1952.4	1772.2	1270.1	847.2	427.5	321.6	327.3	341.8	358.7	407.3	416.8
30°	1951.6	1837.4	1219.0	695.9	343.4	294.8	309.6	322.0	336.0	380.5	385.9
32.5°	1997.7	1794.9	1188.1	541.3	307.9	288.2	291.9	304.2	324.4	354.5	358.2
35°	2053.4	1843.2	1089.2	430.0	294.8	282.4	285.3	292.3	310.8	338.5	342.2
37.5°	2231.9	1852.2	1050.0	362.4	293.9	279.9	279.5	283.2	304.2	329.4	340.5
40°	2301.6	1935.1	935.8	338.5	291.0	279.9	274.1	276.2	293.5	325.7	334.3
42.5°	2468.5	1962.7	851.3	330.2	291.0	275.0	265.9	269.2	289.4	317.8	331.4
45°	2640.4	2001.9	750.7	328.6	290.6	274.6	257.2	264.7	281.2	305.1	319.9
47.5°	2885.3	2142.9	650.1	323.6	287.3	276.6	255.2	254.8	269.2	289.8	303.8
50°	3284.8	2363.0	572.2	317.4	287.7	275.0	251.1	245.3	254.8	272.9	286.5
52.5°	3840.9	2738.1	541.7	314.1	284.4	268.4	244.0	235.0	240.3	254.8	268.0
55°	4486.5	3244.8	571.8	314.1	277.9	258.1	234.2	223.4	226.3	236.2	249.0
57.5°	5240.9	3874.3	717.3	309.6	269.6	245.7	222.2	209.8	210.7	219.3	230.9
60°	6028.7	4577.6	1043.4	305.9	263.8	232.1	208.2	195.4	194.2	202.4	212.7
62.5°	6817.7	5226.5	1386.4	314.5	262.2	220.6	193.3	180.6	180.2	187.6	196.2
65°	7445.2	5670.0	1471.7	349.6	272.9	207.4	178.1	166.1	165.3	171.5	181.0
67.5°	7753.1	5734.3	1118.0	393.3	295.6	195.0	163.2	152.1	151.3	157.9	166.1
70°	7525.1	5294.9	690.1	397.8	294.3	180.6	148.0	138.5	136.9	143.9	150.1
72.5°	6681.7	4631.6	524.4	352.1	254.8	160.0	132.7	124.5	122.0	128.2	134.0
75°	5362.9	3677.2	420.1	284.0	200.8	134.8	117.5	109.7	106.8	112.5	117.5
77.5°	3124.0	2068.6	307.1	221.8	151.7	110.1	100.2	93.2	89.9	96.1	99.8
80°	1015.8	689.3	192.9	159.1	110.9	86.2	81.2	76.3	73.0	77.1	78.3
82.5°	364.8	256.4	106.8	97.7	73.8	61.8	61.4	58.5	54.4	56.1	56.1
85°	161.6	117.1	63.5	52.4	44.1	33.0	38.8	36.7	32.6	31.7	30.5
87.5°	45.3	38.8	23.1	17.7	14.4	5.4	12.4	11.1	9.1	8.2	5.8
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)