

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: P368297

Luminaire Tested: **MSA-SA4A-830-U-SL2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368297  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-830-U-SL2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10097 lumens  
Efficiency: N/A  
Efficacy: 78.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G2

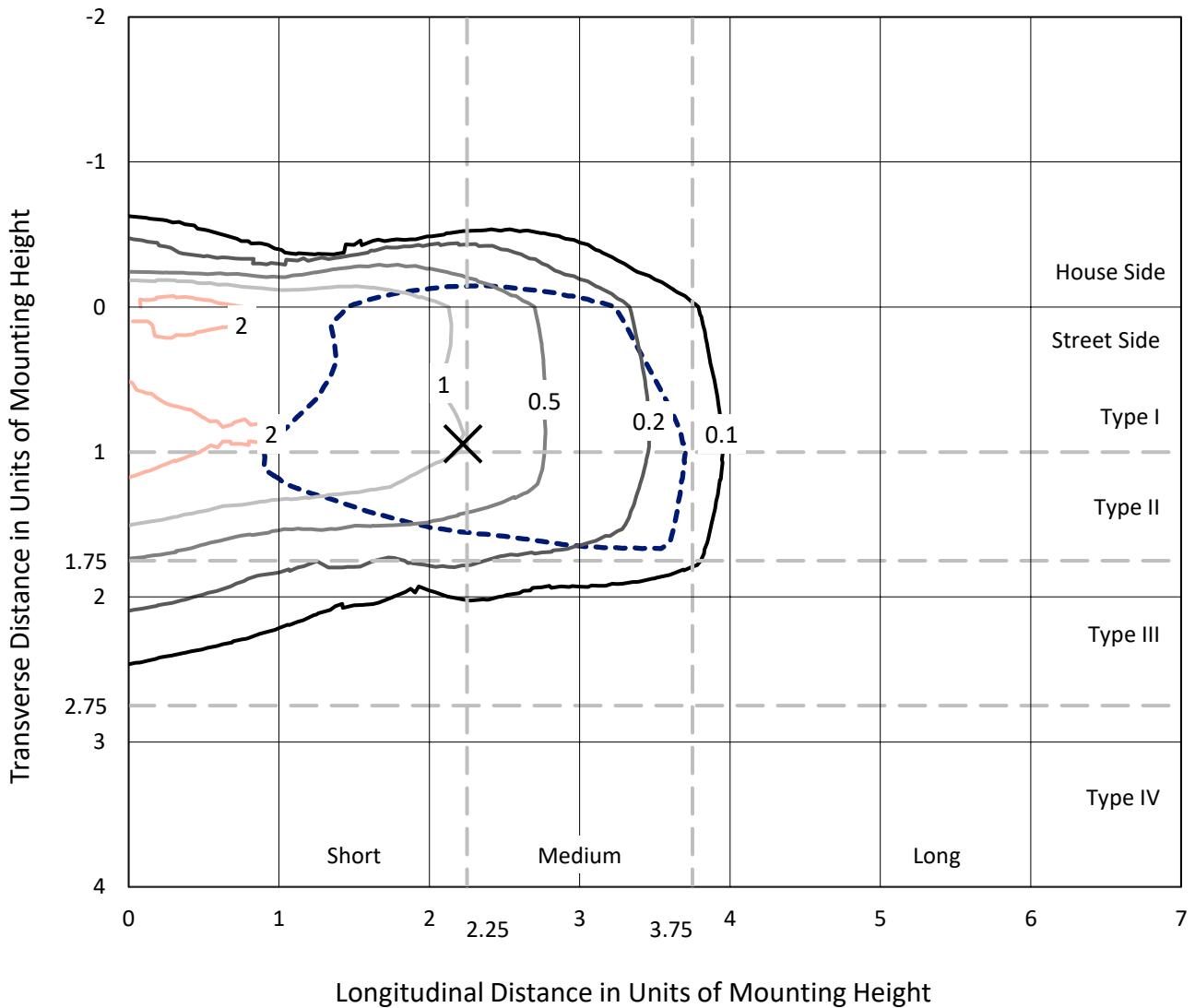
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

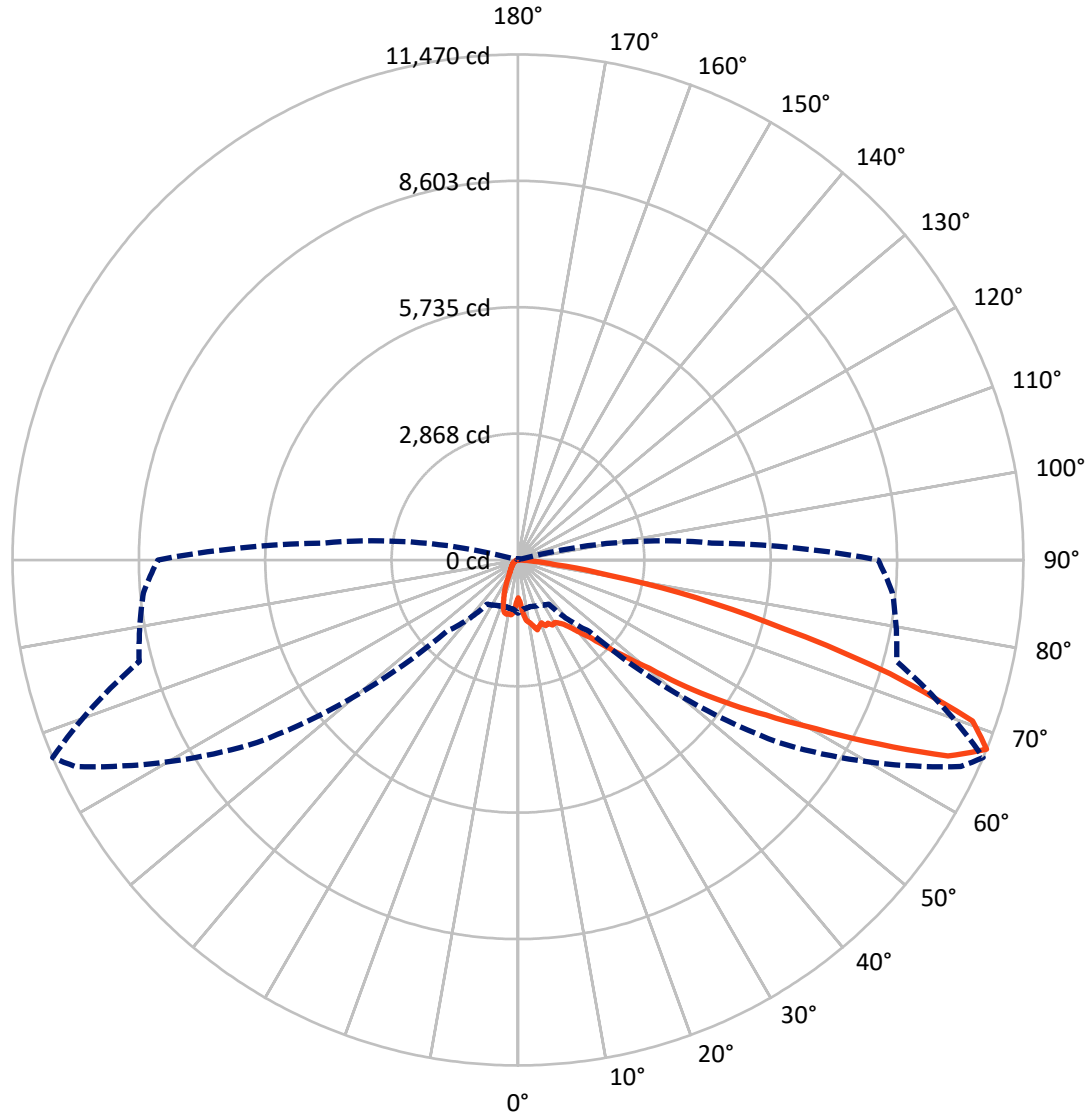
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.7 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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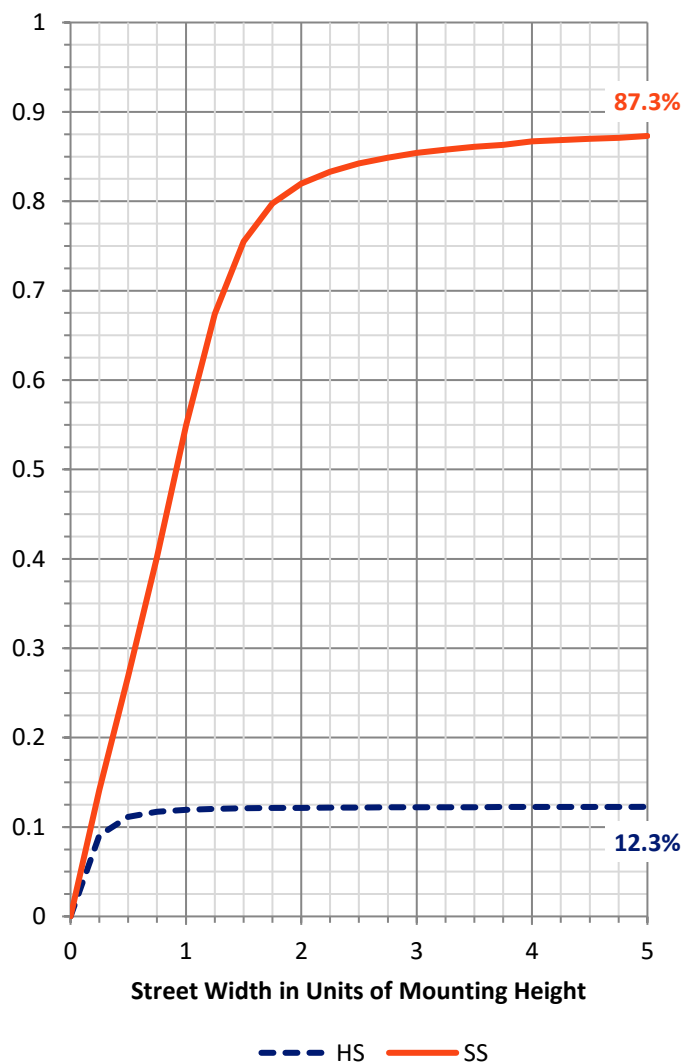
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1248.7	0.0	1248.7
	% Fixture	12.4	0.0	12.4
<b>Street Side</b>	Lumens	8848.3	0.0	8848.3
	% Fixture	87.6	0.0	87.6
<b>Total</b>	Lumens	10097.0	0.0	10097.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.9	1.1
10°-20°	319.4	3.2
20°-30°	500.6	5.0
30°-40°	807.1	8.0
40°-50°	1483.1	14.7
50°-60°	2504.8	24.8
60°-70°	2769.1	27.4
70°-80°	1449.3	14.4
80°-90°	155.6	1.5
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°	10097.0	100.0
0°-180°	10097.0	100.0

**Coefficient of Utilization**

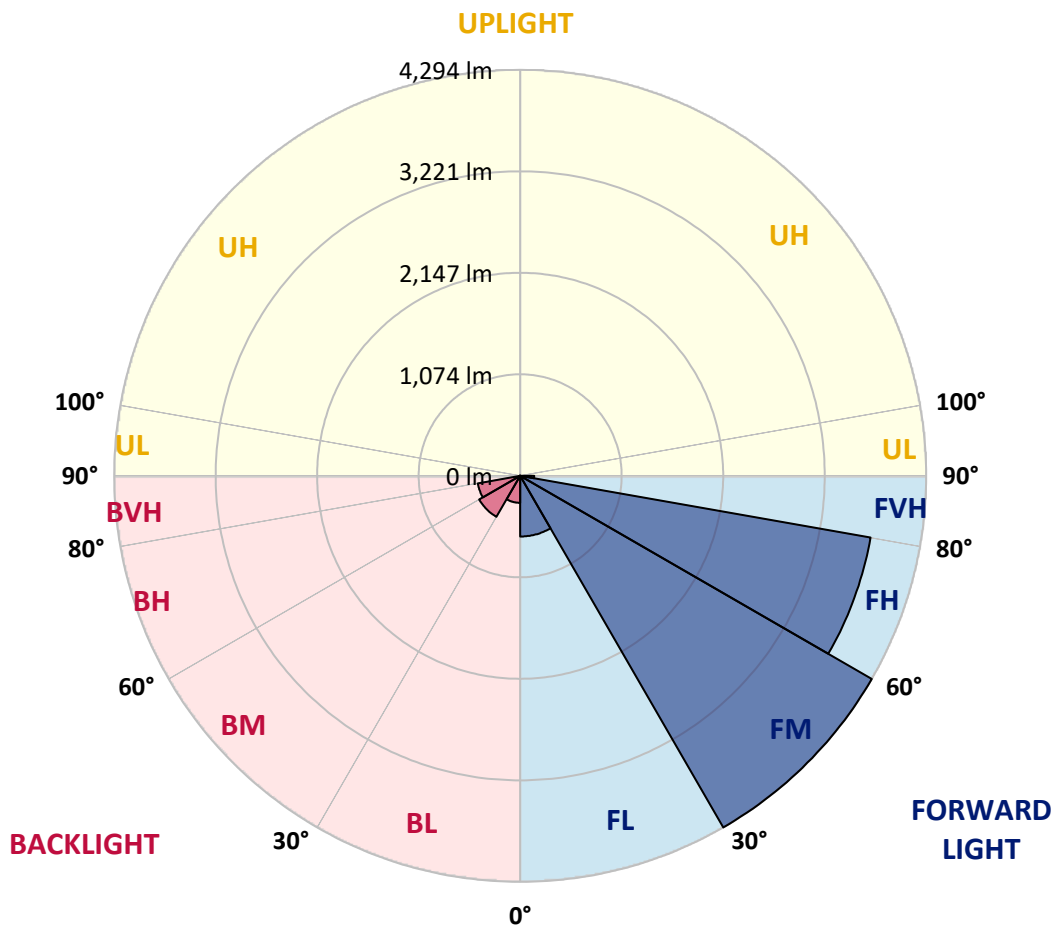


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	642.0	6.4			
FM (30°-60°)	4294.3	42.5			
FH (60°-80°)	3763.0	37.3			G2/5000
FVH (80°-90°)	149.0	1.5			G2/225
BL (0°-30°)	285.9	2.8	B1/500		
BM (30°-60°)	500.7	5.0	B1/1000		
BH (60°-80°)	455.5	4.5	B1/500		G1/500
BVH (80°-90°)	6.6	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0
2.5°	1015.2	980.9	922.5	939.4	973.2	1001.3	988.0	961.9	962.4	935.8	1031.6
5°	1181.1	1135.0	1101.2	1113.0	1111.5	1110.4	1173.4	1197.5	1207.8	1251.8	1316.9
7.5°	1228.8	1212.4	1177.0	1187.8	1152.4	1155.0	1265.6	1370.1	1386.5	1413.7	1529.4
10°	1210.3	1178.6	1191.4	1191.4	1191.9	1249.3	1323.5	1423.4	1443.4	1547.9	1560.2
12.5°	1190.3	1191.9	1242.6	1233.4	1303.0	1406.0	1431.1	1543.3	1533.5	1624.2	1758.9
15°	1264.6	1303.5	1270.8	1283.6	1290.2	1411.1	1451.6	1600.6	1643.6	1758.4	1846.0
17.5°	1392.2	1397.3	1329.2	1310.7	1358.9	1393.2	1474.6	1546.3	1575.0	1876.2	2000.1
20°	1415.2	1448.0	1378.8	1272.3	1374.2	1421.4	1478.2	1512.5	1524.8	1912.5	2087.2
22.5°	1554.0	1517.6	1407.0	1326.1	1355.3	1406.5	1441.8	1545.3	1619.1	1843.9	2170.7
25°	1625.2	1615.5	1510.0	1440.8	1411.1	1407.0	1487.9	1566.3	1589.9	1915.1	2191.2
27.5°	1795.8	1773.7	1569.4	1560.7	1462.8	1376.8	1489.5	1630.3	1674.4	1848.0	2268.0
30°	2027.8	2019.6	1747.6	1742.0	1586.3	1431.6	1572.4	1669.8	1643.1	1882.3	2319.2
32.5°	2261.4	2327.9	2049.8	1891.0	1774.3	1632.9	1548.9	1657.5	1705.1	1965.8	2413.5
35°	2543.6	2591.7	2308.5	2193.2	1933.5	1727.1	1705.1	1774.8	1795.3	2065.2	2520.5
37.5°	3037.3	2964.6	2723.4	2527.2	2390.9	2063.6	1955.1	1899.7	1947.4	2199.9	2739.2
40°	3402.0	3355.9	3058.8	2941.6	2628.1	2436.5	2152.8	2101.0	2154.3	2338.2	2891.4
42.5°	3842.0	3746.2	3466.6	3387.2	3064.5	2695.2	2407.3	2425.3	2392.0	2611.2	3158.2
45°	4240.0	4023.8	3868.1	3886.0	3714.0	3215.1	2831.9	2823.2	2795.6	3006.6	3438.9
47.5°	4507.9	4318.9	4167.2	4117.6	4097.1	4129.3	3445.6	3290.9	3270.4	3422.0	3880.9
50°	4651.8	4444.9	4257.4	4267.6	4683.5	4996.5	4078.6	3858.9	3866.6	4024.9	4485.3
52.5°	4555.0	4320.9	4123.2	4315.3	5138.4	5574.8	5126.6	4601.1	4779.3	4738.9	5296.1
55°	4107.8	3904.5	3764.1	4107.8	5188.1	6197.1	6416.8	5718.2	5678.2	5586.0	6122.8
57.5°	3355.4	3180.2	3093.7	3456.3	4644.6	6698.5	7712.7	6980.8	6640.1	6253.9	6809.2
60°	2500.0	2371.0	2280.8	2472.4	3659.7	6211.4	8561.4	8170.6	7776.2	6897.8	7425.9
62.5°	1851.6	1746.6	1650.8	1668.2	2520.0	5342.2	8887.2	9431.1	9204.7	7577.5	8007.7
65°	1477.7	1381.9	1314.8	1276.4	1560.7	4019.2	8433.9	10464.2	10725.4	8217.7	8427.7
67.5°	1206.7	1125.8	1092.5	1136.6	1224.2	2291.1	7223.0	11091.1	11470.2	8896.9	8531.2
70°	981.9	915.3	911.7	1030.5	1127.3	1396.8	5313.0	10658.3	10943.6	9012.6	7910.9
72.5°	684.3	655.1	701.7	870.2	1117.1	1163.2	3051.2	8820.1	8830.3	7960.1	6507.0
75°	387.2	382.6	456.4	694.0	1087.9	1151.4	1701.0	6232.9	6237.6	6020.4	4507.9
77.5°	213.1	199.2	265.8	469.2	934.2	1124.8	1097.1	4255.9	4146.8	3350.3	2059.0
80°	98.3	92.7	143.9	300.7	683.3	1063.8	879.4	2339.2	2109.2	1091.5	502.5
82.5°	40.5	38.4	66.1	193.1	431.8	856.9	741.2	1037.7	832.8	207.4	155.2
85°	7.2	7.7	27.1	116.8	241.8	394.9	600.8	492.7	362.1	57.4	85.0
87.5°	0.0	0.0	5.6	28.2	58.4	108.1	243.8	137.8	94.8	16.9	25.1
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°	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0
2.5°	1050.5	1041.8	953.7	957.8	964.0	958.3	957.3	932.7	910.2	984.4	983.4
5°	1328.6	1266.7	1205.7	1182.2	1131.4	1064.9	1065.4	1044.4	1022.9	1053.1	1053.1
7.5°	1526.9	1441.3	1364.0	1226.2	1092.0	970.6	959.9	931.2	898.4	937.8	945.5
10°	1573.0	1498.7	1398.8	1196.5	1069.5	951.2	821.1	714.0	664.3	641.3	637.2
12.5°	1714.8	1659.5	1436.2	1212.4	1029.5	829.2	616.2	489.1	402.6	395.9	386.7
15°	1809.6	1770.7	1473.1	1172.9	860.5	596.2	387.2	297.1	262.2	259.2	254.6
17.5°	1956.6	1889.0	1437.7	1047.4	673.0	393.4	260.2	234.6	238.7	247.9	240.7
20°	2016.5	1884.4	1360.9	865.6	472.8	263.8	225.9	212.1	222.8	231.5	227.4
22.5°	2078.0	1897.7	1292.8	713.5	308.9	218.2	201.3	194.1	195.1	203.9	204.4
25°	2077.5	1934.6	1213.9	555.7	230.0	194.1	181.8	172.6	169.0	175.2	173.6
27.5°	2178.4	1892.1	1070.0	412.3	202.3	173.6	161.9	150.6	137.8	143.9	143.9
30°	2178.9	1961.2	969.6	296.1	185.4	154.7	144.4	127.0	112.2	117.3	117.8
32.5°	2236.8	1901.3	876.9	226.4	172.1	143.4	120.9	105.0	96.3	99.4	99.4
35°	2302.8	1952.5	734.5	199.8	158.8	127.5	103.5	90.7	84.0	86.6	86.6
37.5°	2521.0	1941.7	635.6	185.9	150.1	115.2	94.2	79.9	76.8	78.4	80.4
40°	2599.9	2018.1	501.4	177.7	135.7	104.0	83.0	72.2	68.1	69.1	69.7
42.5°	2800.7	2035.0	400.5	171.1	122.9	90.1	73.8	66.1	61.0	61.0	62.5
45°	3022.5	2077.5	318.6	165.4	112.2	80.9	66.6	60.4	52.8	51.7	53.8
47.5°	3343.6	2240.4	259.7	154.2	99.4	75.3	61.5	52.2	46.1	44.0	46.1
50°	3880.9	2516.9	229.5	140.3	90.1	70.7	54.3	44.6	40.0	37.4	38.9
52.5°	4639.0	2994.8	213.6	127.5	82.0	63.5	48.7	38.9	34.3	32.3	33.3
55°	5481.0	3542.9	205.9	114.7	74.8	55.8	42.5	34.3	30.2	27.7	28.2
57.5°	6259.6	4058.1	198.2	102.4	67.6	49.7	37.4	30.2	26.1	23.6	24.1
60°	7026.9	4469.4	179.8	88.1	61.0	44.6	32.8	26.1	23.6	20.5	20.5
62.5°	7705.5	4715.3	153.1	76.3	54.8	39.4	29.2	23.6	21.5	18.4	18.4
65°	8167.5	4726.6	123.4	65.6	48.1	33.8	25.6	22.0	20.0	16.4	15.9
67.5°	8174.2	4419.2	98.9	58.4	42.5	29.7	23.0	21.0	18.4	15.4	14.3
70°	7316.2	3651.0	82.5	51.2	36.9	26.1	20.0	20.0	17.9	14.9	13.3
72.5°	5852.4	2789.9	69.1	44.6	32.8	22.5	18.4	19.0	17.4	14.9	13.3
75°	3933.7	1600.1	57.4	37.9	28.7	19.0	17.9	18.4	17.9	14.9	12.8
77.5°	1811.6	509.6	44.6	31.2	24.6	15.9	17.4	17.4	16.4	13.3	11.3
80°	408.2	125.5	32.3	23.0	20.0	11.8	15.9	14.3	12.8	9.2	6.7
82.5°	148.5	38.4	19.5	14.3	12.3	4.6	10.2	10.2	9.2	6.7	4.1
85°	85.0	20.0	10.8	9.2	6.7	2.0	5.6	6.1	5.1	4.6	2.0
87.5°	27.7	4.6	5.1	5.6	5.1	1.0	2.0	2.0	1.5	1.0	0.0
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)