

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: P368231

Luminaire Tested: **MSA-SA4A-740-U-SL2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368231
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-740-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: 12707 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G2

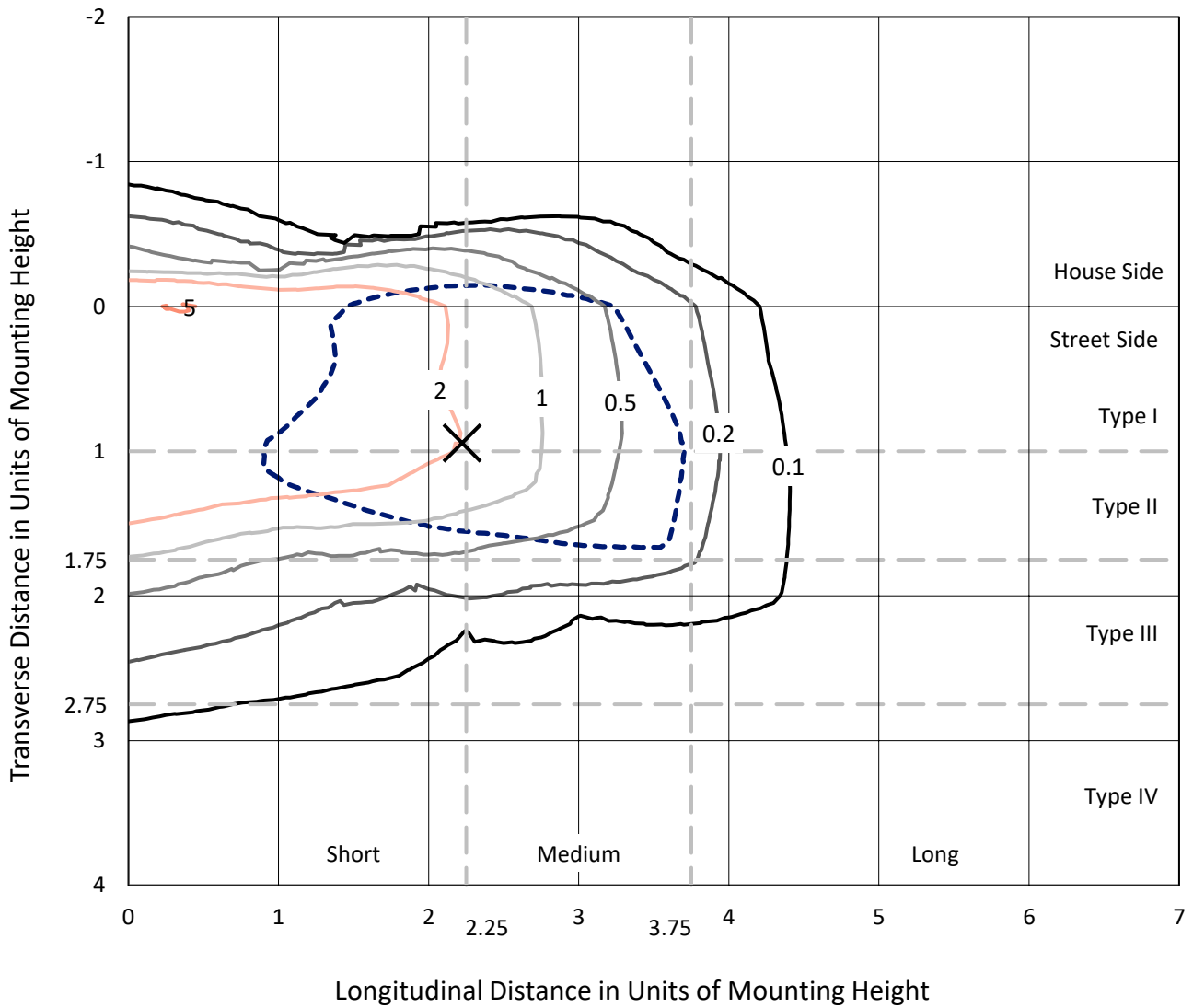
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

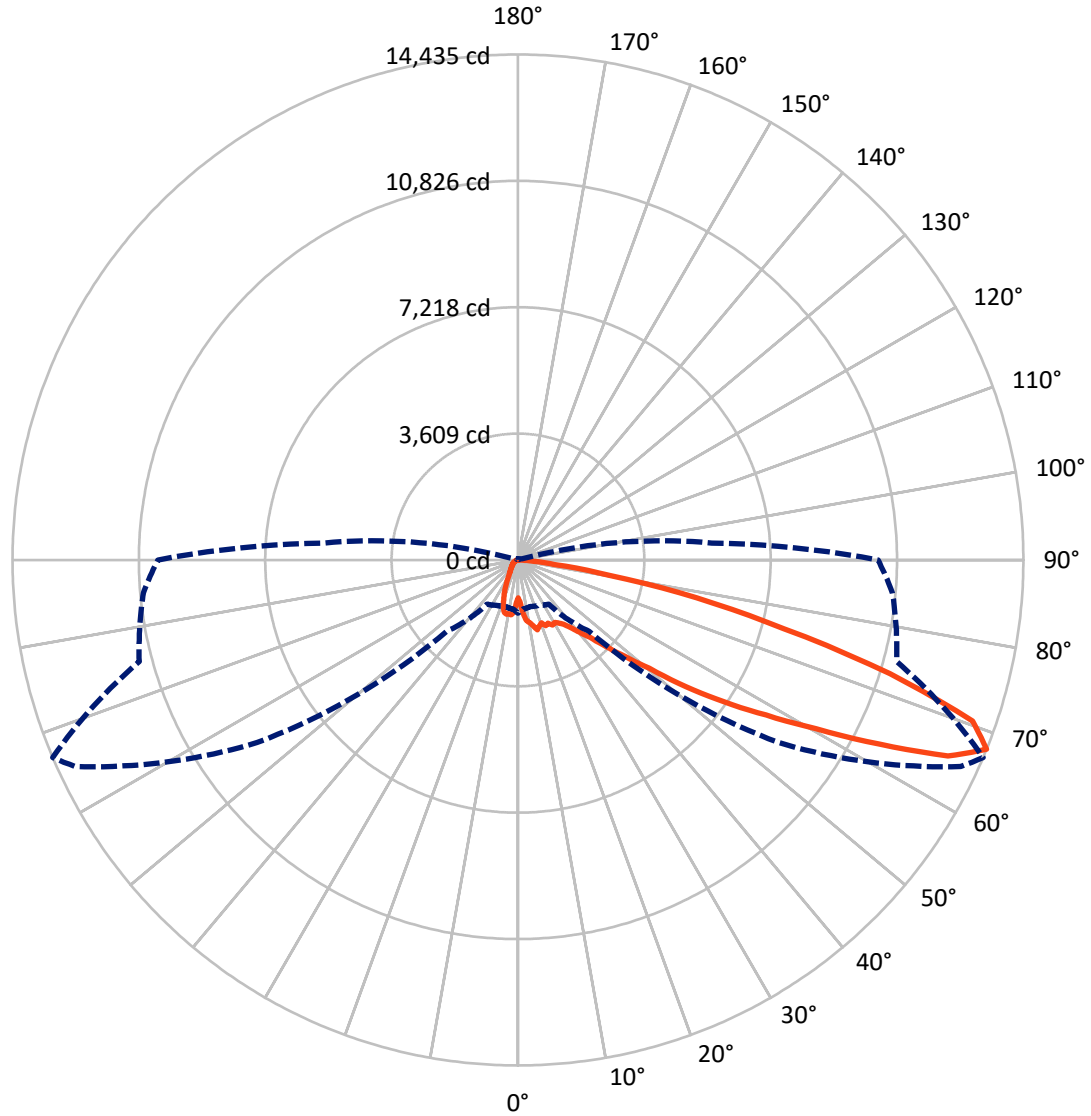
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.2 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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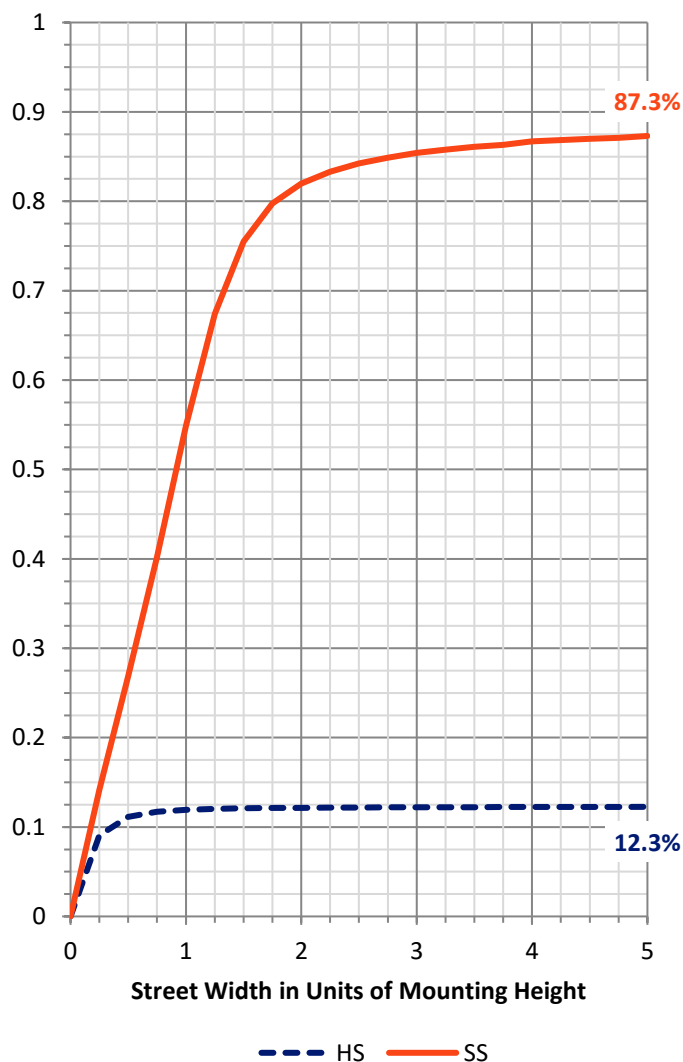
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1571.5	0.0	1571.5
	% Fixture	12.4	0.0	12.4
Street Side	Lumens	11135.5	0.0	11135.5
	% Fixture	87.6	0.0	87.6
Total	Lumens	12707.0	0.0	12707.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.8	1.1
10°-20°	402.0	3.2
20°-30°	630.0	5.0
30°-40°	1015.7	8.0
40°-50°	1866.5	14.7
50°-60°	3152.2	24.8
60°-70°	3484.9	27.4
70°-80°	1824.0	14.4
80°-90°	195.9	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°	12707.0	100.0
0°-180°	12707.0	100.0

Coefficient of Utilization



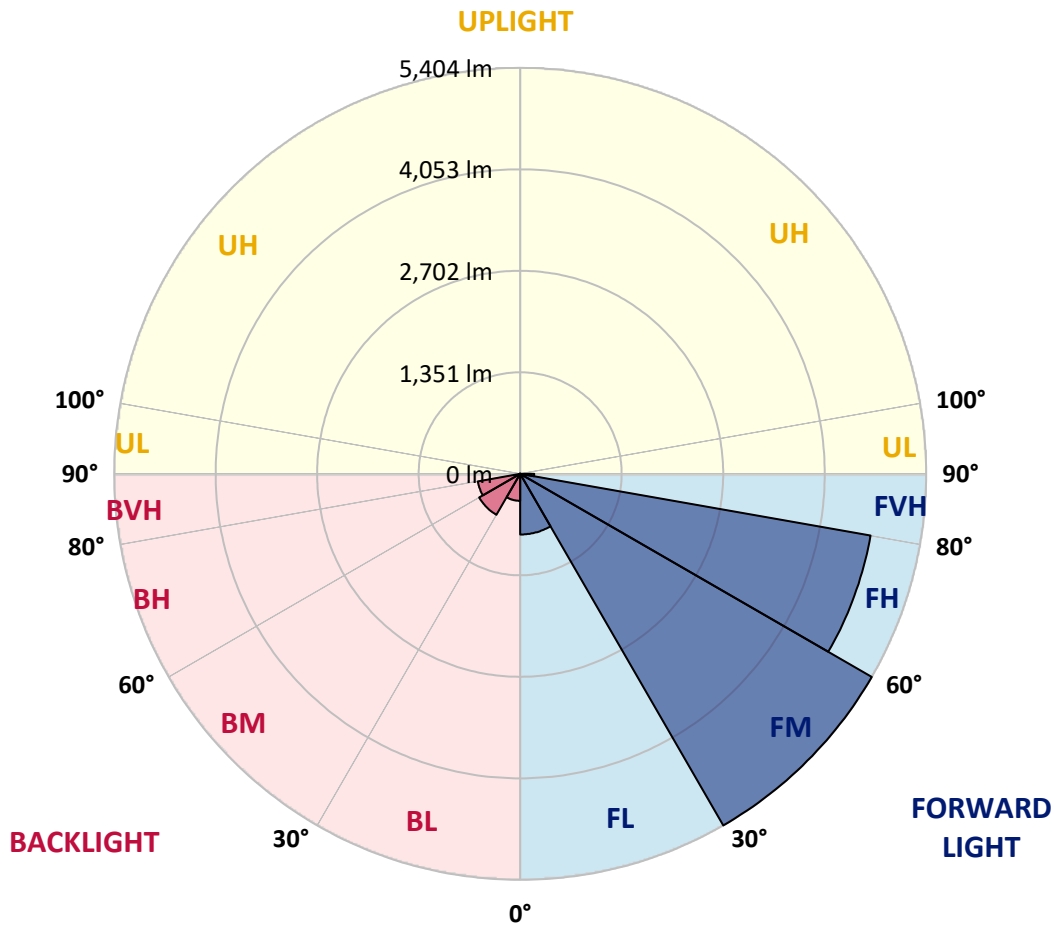
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	808.0	6.4			
FM (30°-60°)	5404.3	42.5			
FH (60°-80°)	4735.7	37.3			G2/5000
FVH (80°-90°)	187.5	1.5			G2/225
BL (0°-30°)	359.8	2.8	B1/500		
BM (30°-60°)	630.1	5.0	B1/1000		
BH (60°-80°)	573.2	4.5	B2/1000		G2/1000
BVH (80°-90°)	8.3	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3
2.5°	1277.6	1234.4	1160.9	1182.2	1224.7	1260.2	1243.4	1210.6	1211.2	1177.7	1298.2
5°	1486.4	1428.4	1385.9	1400.7	1398.8	1397.5	1476.8	1507.1	1520.0	1575.4	1657.3
7.5°	1546.4	1525.8	1481.3	1494.8	1450.3	1453.6	1592.8	1724.3	1744.9	1779.1	1924.8
10°	1523.2	1483.2	1499.3	1499.3	1500.0	1572.2	1665.6	1791.3	1816.5	1948.0	1963.4
12.5°	1498.0	1500.0	1563.8	1552.2	1639.9	1769.4	1801.0	1942.2	1929.9	2044.0	2213.5
15°	1591.5	1640.5	1599.2	1615.4	1623.7	1775.9	1826.8	2014.4	2068.5	2212.9	2323.1
17.5°	1752.0	1758.5	1672.7	1649.5	1710.1	1753.3	1855.8	1946.0	1982.1	2361.2	2517.2
20°	1781.0	1822.3	1735.3	1601.2	1729.5	1788.8	1860.3	1903.5	1919.0	2406.9	2626.7
22.5°	1955.7	1909.9	1770.7	1668.9	1705.6	1770.1	1814.5	1944.8	2037.6	2320.6	2731.8
25°	2045.3	2033.1	1900.3	1813.3	1775.9	1770.7	1872.6	1971.2	2000.8	2410.2	2757.6
27.5°	2260.0	2232.2	1975.0	1964.1	1841.0	1732.7	1874.5	2051.8	2107.2	2325.7	2854.3
30°	2552.0	2541.6	2199.4	2192.3	1996.3	1801.7	1978.9	2101.4	2067.9	2368.9	2918.7
32.5°	2845.9	2929.7	2579.7	2379.9	2232.9	2055.0	1949.3	2085.9	2145.9	2474.0	3037.3
35°	3201.1	3261.7	2905.2	2760.2	2433.4	2173.6	2145.9	2233.5	2259.3	2599.0	3172.1
37.5°	3822.5	3730.9	3427.3	3180.4	3009.0	2597.1	2460.4	2390.8	2450.8	2768.5	3447.3
40°	4281.4	4223.4	3849.5	3701.9	3307.4	3066.4	2709.2	2644.1	2711.2	2942.6	3638.8
42.5°	4835.1	4714.6	4362.6	4262.7	3856.6	3391.9	3029.6	3052.2	3010.3	3286.2	3974.6
45°	5336.0	5064.0	4868.0	4890.6	4674.0	4046.1	3564.0	3553.0	3518.2	3783.8	4327.8
47.5°	5673.1	5435.2	5244.4	5181.9	5156.1	5196.7	4336.2	4141.5	4115.8	4306.6	4884.1
50°	5854.2	5593.8	5357.9	5370.8	5894.2	6288.1	5132.9	4856.4	4866.1	5065.3	5644.7
52.5°	5732.4	5437.8	5189.0	5430.7	6466.6	7015.8	6451.8	5790.4	6014.7	5963.8	6665.1
55°	5169.7	4913.8	4737.2	5169.7	6529.1	7799.0	8075.5	7196.3	7146.0	7030.0	7705.5
57.5°	4222.8	4002.3	3893.4	4349.7	5845.2	8430.1	9706.4	8785.2	8356.6	7870.5	8569.3
60°	3146.3	2983.8	2870.4	3111.5	4605.7	7817.0	10774.5	10282.6	9786.3	8680.8	9345.4
62.5°	2330.2	2198.1	2077.5	2099.5	3171.4	6723.2	11184.4	11869.0	11584.1	9536.2	10077.6
65°	1859.7	1739.1	1654.7	1606.3	1964.1	5058.2	10613.9	13169.1	13497.9	10341.9	10606.2
67.5°	1518.7	1416.8	1374.9	1430.4	1540.6	2883.3	9090.1	13958.1	14435.1	11196.7	10736.4
70°	1235.7	1151.9	1147.4	1296.9	1418.8	1757.8	6686.4	13413.4	13772.5	11342.3	9955.8
72.5°	861.2	824.4	883.1	1095.2	1405.9	1463.9	3839.9	11100.0	11112.9	10017.7	8189.0
75°	487.3	481.5	574.3	873.4	1369.1	1449.1	2140.7	7844.1	7849.9	7576.6	5673.1
77.5°	268.2	250.7	334.5	590.5	1175.7	1415.5	1380.7	5356.0	5218.7	4216.3	2591.3
80°	123.8	116.7	181.1	378.4	859.9	1338.8	1106.8	2943.9	2654.5	1373.6	632.4
82.5°	50.9	48.3	83.2	243.0	543.4	1078.4	932.7	1306.0	1048.1	261.1	195.3
85°	9.0	9.7	34.2	147.0	304.3	497.0	756.1	620.1	455.7	72.2	107.0
87.5°	0.0	0.0	7.1	35.5	73.5	136.0	306.8	173.4	119.3	21.3	31.6
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°	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3	1082.3
2.5°	1322.1	1311.1	1200.2	1205.4	1213.1	1206.0	1204.8	1173.8	1145.5	1238.9	1237.6
5°	1672.1	1594.1	1517.4	1487.7	1423.9	1340.1	1340.8	1314.3	1287.3	1325.3	1325.3
7.5°	1921.5	1813.9	1716.6	1543.2	1374.3	1221.5	1208.0	1171.9	1130.6	1180.3	1189.9
10°	1979.6	1886.1	1760.4	1505.8	1345.9	1197.0	1033.3	898.6	836.0	807.0	801.9
12.5°	2158.1	2088.5	1807.5	1525.8	1295.6	1043.6	775.5	615.6	506.7	498.3	486.7
15°	2277.4	2228.4	1853.9	1476.1	1082.9	750.3	487.3	373.9	330.0	326.2	320.4
17.5°	2462.4	2377.3	1809.4	1318.2	847.0	495.1	327.5	295.2	300.4	312.0	303.0
20°	2537.8	2371.5	1712.7	1089.4	595.0	332.0	284.3	266.9	280.4	291.4	286.2
22.5°	2615.1	2388.2	1627.0	897.9	388.7	274.6	253.3	244.3	245.6	256.5	257.2
25°	2614.5	2434.6	1527.7	699.4	289.4	244.3	228.8	217.2	212.7	220.5	218.5
27.5°	2741.5	2381.1	1346.6	518.9	254.6	218.5	203.7	189.5	173.4	181.1	181.1
30°	2742.1	2468.2	1220.2	372.6	233.3	194.7	181.8	159.9	141.2	147.6	148.3
32.5°	2815.0	2392.7	1103.6	284.9	216.6	180.5	152.1	132.1	121.2	125.1	125.1
35°	2898.1	2457.2	924.4	251.4	199.8	160.5	130.2	114.1	105.7	108.9	108.9
37.5°	3172.7	2443.7	799.9	234.0	188.9	145.0	118.6	100.6	96.7	98.6	101.2
40°	3272.0	2539.7	631.1	223.7	170.8	130.9	104.4	90.9	85.7	87.0	87.7
42.5°	3524.7	2561.0	504.1	215.3	154.7	113.4	92.8	83.2	76.7	76.7	78.6
45°	3803.8	2614.5	400.9	208.2	141.2	101.8	83.8	76.1	66.4	65.1	67.7
47.5°	4207.9	2819.5	326.8	194.0	125.1	94.8	77.4	65.7	58.0	55.4	58.0
50°	4884.1	3167.6	288.8	176.6	113.4	89.0	68.3	56.1	50.3	47.1	49.0
52.5°	5838.1	3769.0	268.8	160.5	103.1	79.9	61.2	49.0	43.2	40.6	41.9
55°	6897.8	4458.7	259.1	144.4	94.1	70.3	53.5	43.2	38.0	34.8	35.5
57.5°	7877.6	5107.1	249.5	128.9	85.1	62.5	47.1	38.0	32.9	29.7	30.3
60°	8843.2	5624.8	226.3	110.9	76.7	56.1	41.3	32.9	29.7	25.8	25.8
62.5°	9697.3	5934.2	192.7	96.0	69.0	49.6	36.7	29.7	27.1	23.2	23.2
65°	10278.8	5948.3	155.3	82.5	60.6	42.5	32.2	27.7	25.1	20.6	20.0
67.5°	10287.1	5561.6	124.4	73.5	53.5	37.4	29.0	26.4	23.2	19.3	18.0
70°	9207.4	4594.7	103.8	64.5	46.4	32.9	25.1	25.1	22.6	18.7	16.8
72.5°	7365.2	3511.1	87.0	56.1	41.3	28.4	23.2	23.9	21.9	18.7	16.8
75°	4950.5	2013.7	72.2	47.7	36.1	23.9	22.6	23.2	22.6	18.7	16.1
77.5°	2279.9	641.4	56.1	39.3	30.9	20.0	21.9	21.9	20.6	16.8	14.2
80°	513.7	157.9	40.6	29.0	25.1	14.8	20.0	18.0	16.1	11.6	8.4
82.5°	186.9	48.3	24.5	18.0	15.5	5.8	12.9	12.9	11.6	8.4	5.2
85°	107.0	25.1	13.5	11.6	8.4	2.6	7.1	7.7	6.4	5.8	2.6
87.5°	34.8	5.8	6.4	7.1	6.4	1.3	2.6	2.6	1.9	1.3	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)