

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: P368407

Luminaire Tested: **MSA-SA4B-760-U-SL2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368407
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-SA4B-760-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: 15924 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G3

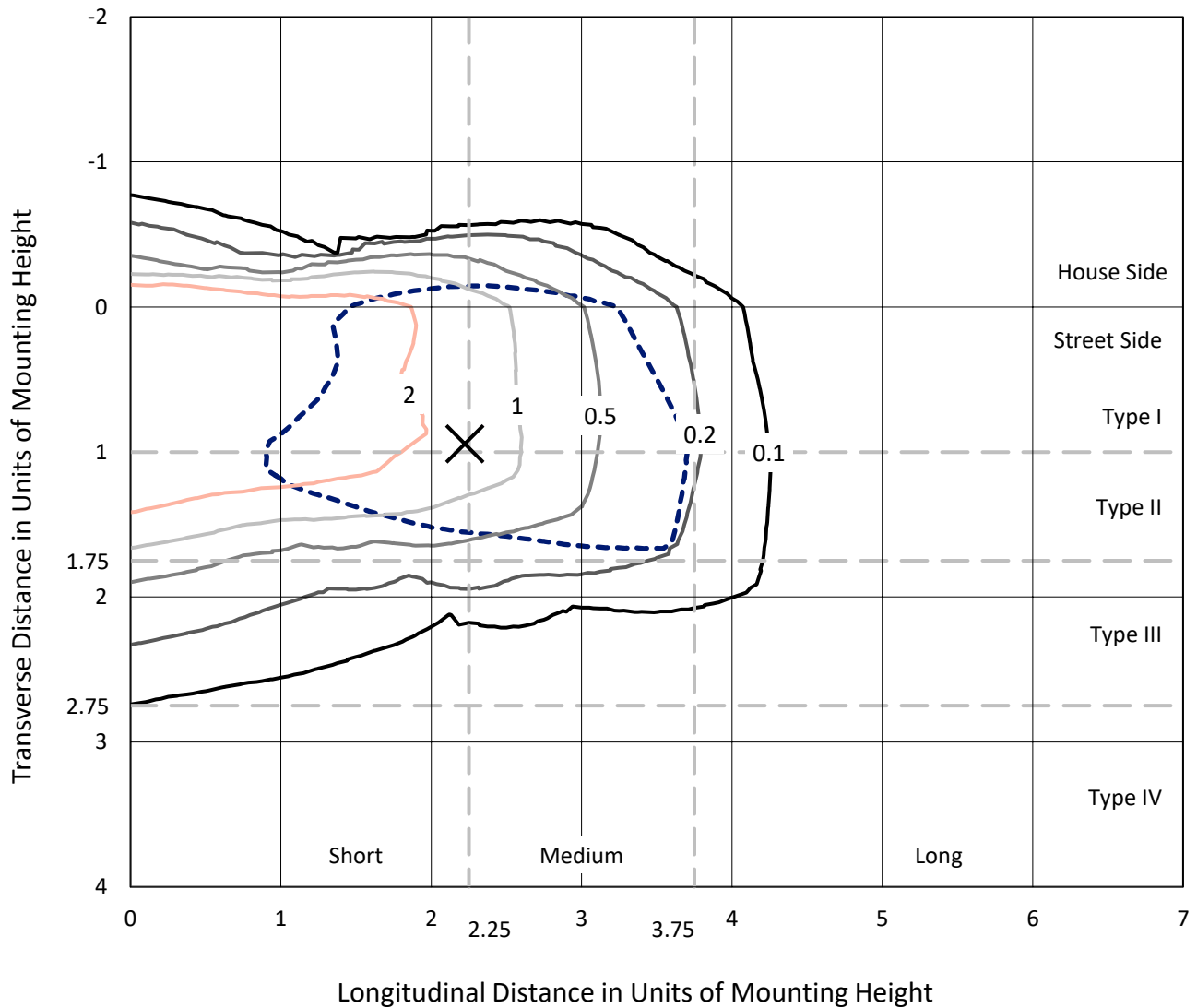
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

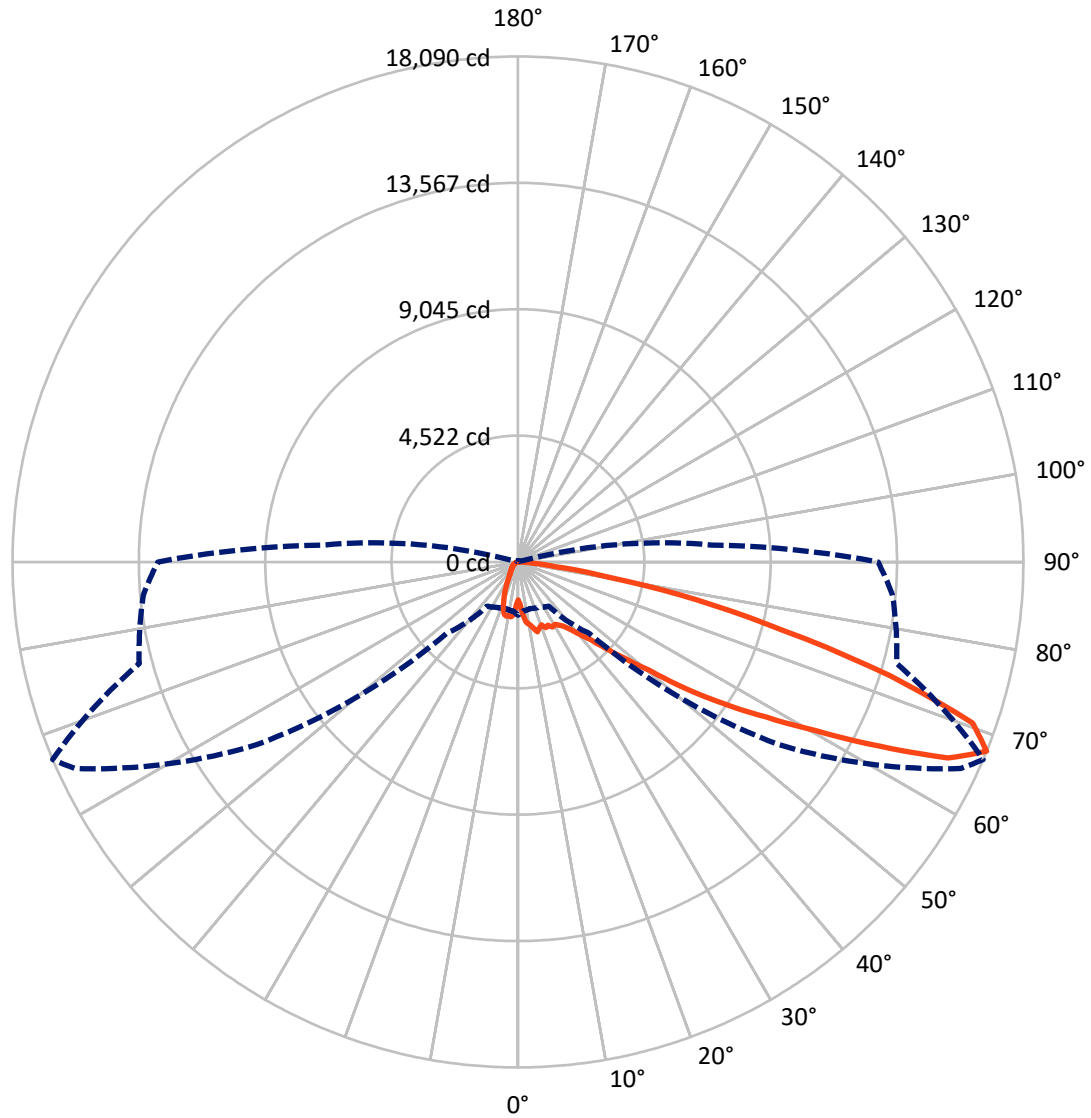
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.2 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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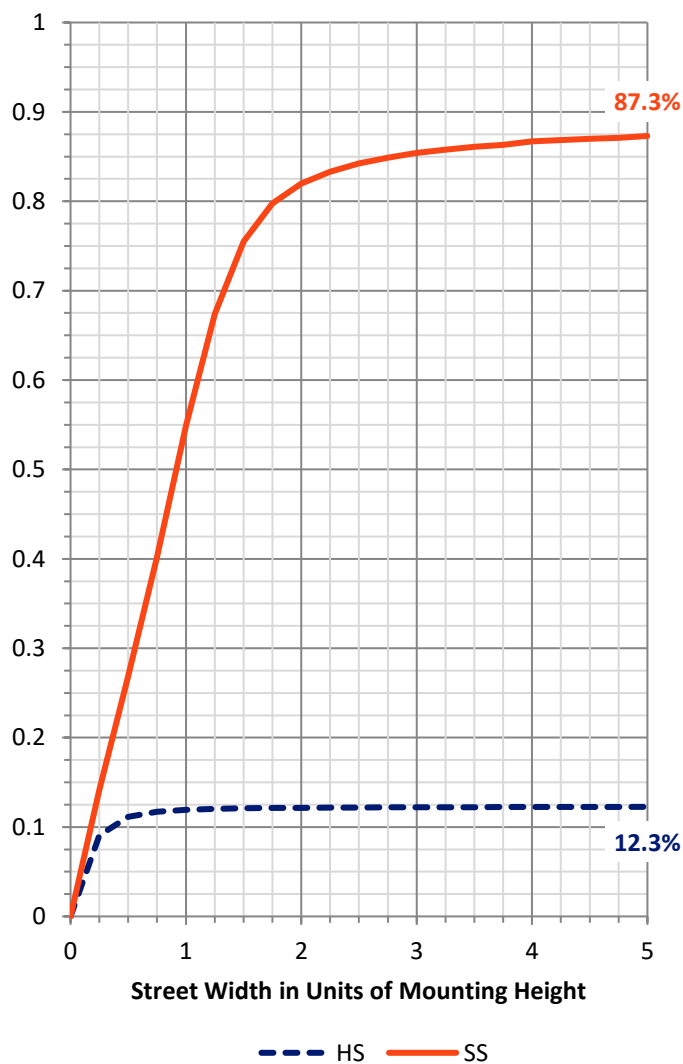
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1969.3	0.0	1969.3
	% Fixture	12.4	0.0	12.4
Street Side	Lumens	13954.7	0.0	13954.7
	% Fixture	87.6	0.0	87.6
Total	Lumens	15924.0	0.0	15924.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.2	1.1
10°-20°	503.7	3.2
20°-30°	789.5	5.0
30°-40°	1272.9	8.0
40°-50°	2339.0	14.7
50°-60°	3950.3	24.8
60°-70°	4367.2	27.4
70°-80°	2285.8	14.4
80°-90°	245.5	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°	15924.0	100.0
0°-180°	15924.0	100.0

Coefficient of Utilization

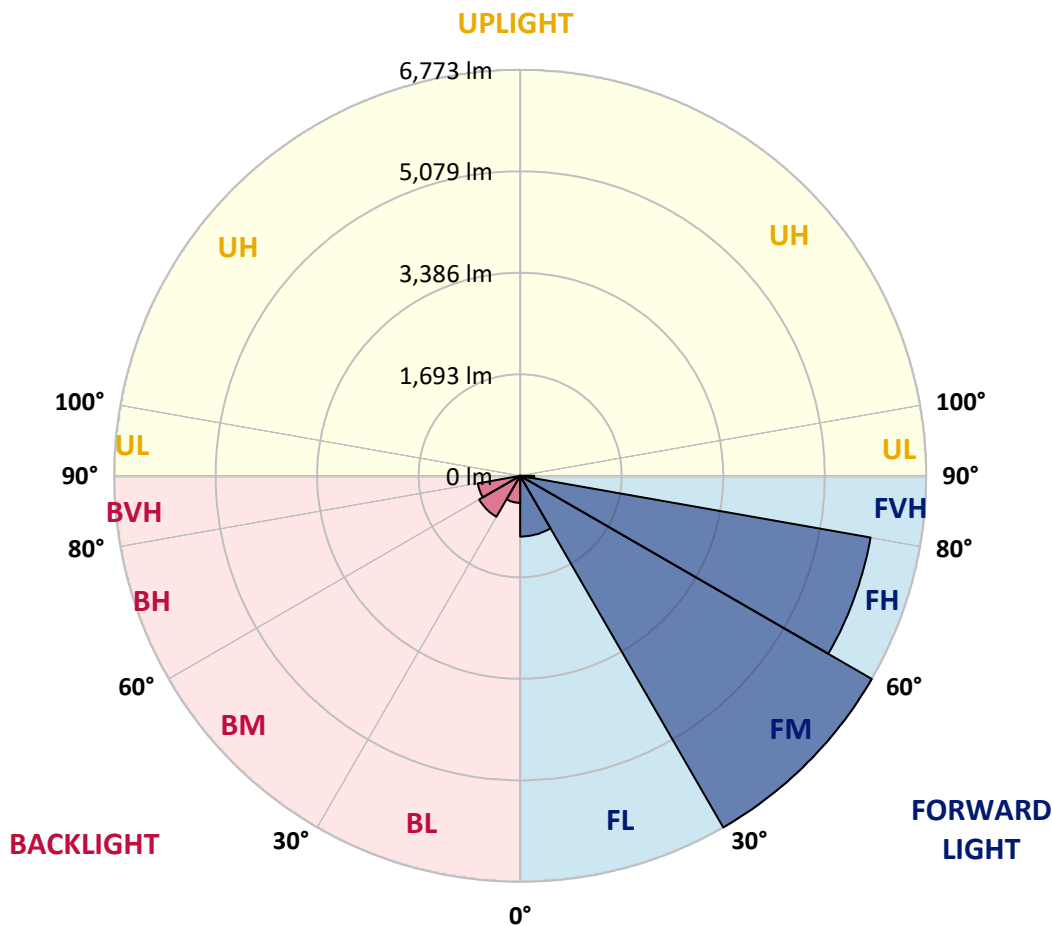


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1012.5	6.4			
FM (30°-60°)	6772.5	42.5			
FH (60°-80°)	5934.6	37.3			G3/7500
FVH (80°-90°)	235.0	1.5			G3/500
BL (0°-30°)	450.9	2.8	B1/500		
BM (30°-60°)	789.6	5.0	B1/1000		
BH (60°-80°)	718.3	4.5	B2/1000		G2/1000
BVH (80°-90°)	10.5	0.1			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 II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3
2.5°	1601.0	1546.9	1454.8	1481.5	1534.8	1579.2	1558.2	1517.0	1517.8	1475.8	1626.9
5°	1862.8	1790.1	1736.7	1755.3	1752.9	1751.3	1850.6	1888.6	1904.8	1974.2	2076.8
7.5°	1937.9	1912.0	1856.3	1873.3	1817.5	1821.6	1996.0	2160.8	2186.7	2229.5	2412.1
10°	1908.8	1858.7	1878.9	1878.9	1879.7	1970.2	2087.3	2244.8	2276.3	2441.1	2460.5
12.5°	1877.3	1879.7	1959.7	1945.2	2055.0	2217.4	2257.0	2433.9	2418.5	2561.5	2773.9
15°	1994.4	2055.8	2004.1	2024.3	2034.8	2225.5	2289.3	2524.3	2592.2	2773.1	2911.3
17.5°	2195.6	2203.6	2096.2	2067.1	2143.1	2197.2	2325.6	2438.7	2484.0	2958.9	3154.4
20°	2231.9	2283.6	2174.6	2006.5	2167.3	2241.6	2331.3	2385.4	2404.8	3016.3	3291.7
22.5°	2450.8	2393.5	2219.0	2091.4	2137.4	2218.2	2273.9	2437.1	2553.4	2908.0	3423.4
25°	2563.1	2547.8	2381.4	2272.3	2225.5	2219.0	2346.6	2470.2	2507.4	3020.3	3455.7
27.5°	2832.1	2797.4	2475.1	2461.3	2307.0	2171.3	2349.1	2571.2	2640.7	2914.5	3576.9
30°	3198.0	3185.1	2756.2	2747.3	2501.7	2257.8	2479.9	2633.4	2591.4	2968.6	3657.7
32.5°	3566.4	3671.4	3232.8	2982.4	2798.2	2575.2	2442.8	2614.0	2689.1	3100.3	3806.3
35°	4011.5	4087.4	3640.7	3459.0	3049.4	2723.9	2689.1	2799.0	2831.3	3257.0	3975.1
37.5°	4790.2	4675.5	4295.0	3985.6	3770.8	3254.6	3083.3	2996.1	3071.2	3469.5	4320.1
40°	5365.3	5292.6	4824.1	4639.1	4144.8	3842.7	3395.1	3313.6	3397.6	3687.6	4560.0
42.5°	6059.2	5908.2	5467.1	5341.9	4833.0	4250.6	3796.6	3824.9	3772.4	4118.1	4980.8
45°	6686.9	6346.0	6100.4	6128.7	5857.3	5070.5	4466.3	4452.5	4408.9	4741.7	5423.5
47.5°	7109.4	6811.3	6572.2	6493.8	6461.5	6512.4	5434.0	5190.0	5157.7	5396.8	6120.6
50°	7336.3	7010.0	6714.3	6730.5	7386.4	7880.0	6432.4	6085.9	6098.0	6347.6	7073.8
52.5°	7183.7	6814.5	6502.7	6805.6	8103.7	8792.0	8085.2	7256.4	7537.5	7473.7	8352.5
55°	6478.5	6157.8	5936.4	6478.5	8182.1	9773.4	10120.0	9018.2	8955.2	8809.7	9656.3
57.5°	5291.8	5015.6	4879.0	5451.0	7325.0	10564.3	12163.7	11009.4	10472.2	9863.1	10738.7
60°	3942.8	3739.3	3597.1	3899.2	5771.7	9796.1	13502.2	12885.9	12263.9	10878.5	11711.3
62.5°	2920.2	2754.6	2603.5	2631.0	3974.3	8425.2	14016.0	14873.8	14516.8	11950.4	12629.0
65°	2330.5	2179.4	2073.6	2013.0	2461.3	6338.7	13301.1	16503.1	16915.1	12960.2	13291.4
67.5°	1903.2	1775.5	1723.0	1792.5	1930.6	3613.2	11391.4	17491.9	18089.6	14031.3	13454.5
70°	1548.5	1443.5	1437.9	1625.3	1777.9	2202.8	8379.2	16809.3	17259.2	14213.9	12476.3
72.5°	1079.2	1033.2	1106.7	1372.4	1761.8	1834.5	4812.0	13910.1	13926.3	12553.9	10262.2
75°	610.7	603.4	719.7	1094.6	1715.7	1815.9	2682.7	9830.0	9837.3	9494.8	7109.4
77.5°	336.0	314.2	419.2	739.9	1473.4	1773.9	1730.3	6711.9	6539.9	5283.7	3247.3
80°	155.1	146.2	227.0	474.2	1077.6	1677.8	1387.0	3689.2	3326.5	1721.4	792.4
82.5°	63.8	60.6	104.2	304.5	681.0	1351.4	1168.9	1636.6	1313.5	327.2	244.8
85°	11.3	12.1	42.8	184.2	381.3	622.8	947.5	777.1	571.1	90.5	134.1
87.5°	0.0	0.0	8.9	44.4	92.1	170.4	384.5	217.3	149.4	26.7	39.6
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°	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3	1356.3
2.5°	1656.8	1643.0	1504.1	1510.6	1520.3	1511.4	1509.8	1471.0	1435.4	1552.6	1551.0
5°	2095.4	1997.7	1901.5	1864.4	1784.4	1679.4	1680.2	1647.1	1613.2	1660.8	1660.8
7.5°	2408.0	2273.1	2151.1	1933.8	1722.2	1530.8	1513.8	1468.6	1416.9	1479.1	1491.2
10°	2480.7	2363.6	2206.1	1887.0	1686.7	1500.1	1294.9	1126.1	1047.7	1011.4	1004.9
12.5°	2704.5	2617.2	2265.0	1912.0	1623.7	1307.8	971.8	771.4	634.9	624.4	609.9
15°	2853.9	2792.5	2323.2	1849.8	1357.1	940.3	610.7	468.5	413.6	408.7	401.5
17.5°	3085.8	2979.1	2267.5	1651.9	1061.4	620.4	410.4	370.0	376.4	391.0	379.7
20°	3180.3	2971.9	2146.3	1365.2	745.6	416.0	356.2	334.4	351.4	365.1	358.7
22.5°	3277.2	2992.9	2038.9	1125.3	487.1	344.1	317.5	306.2	307.8	321.5	322.3
25°	3276.4	3051.0	1914.5	876.5	362.7	306.2	286.8	272.2	266.6	276.3	273.8
27.5°	3435.5	2984.0	1687.5	650.3	319.1	273.8	255.3	237.5	217.3	227.0	227.0
30°	3436.3	3093.0	1529.1	466.9	292.4	244.0	227.8	200.3	176.9	185.0	185.8
32.5°	3527.6	2998.5	1382.9	357.0	271.4	226.2	190.6	165.6	151.9	156.7	156.7
35°	3631.8	3079.3	1158.4	315.0	250.4	201.1	163.2	143.0	132.5	136.5	136.5
37.5°	3975.9	3062.3	1002.5	293.2	236.7	181.8	148.6	126.0	121.2	123.6	126.8
40°	4100.3	3182.7	790.8	280.3	214.1	164.0	130.9	113.9	107.4	109.1	109.9
42.5°	4417.0	3209.3	631.7	269.8	193.9	142.2	116.3	104.2	96.1	96.1	98.6
45°	4766.8	3276.4	502.4	260.9	176.9	127.6	105.0	95.3	83.2	81.6	84.8
47.5°	5273.2	3533.3	409.5	243.1	156.7	118.7	96.9	82.4	72.7	69.5	72.7
50°	6120.6	3969.5	361.9	221.3	142.2	111.5	85.6	70.3	63.0	59.0	61.4
52.5°	7316.1	4723.1	336.8	201.1	129.2	100.2	76.7	61.4	54.1	50.9	52.5
55°	8644.2	5587.5	324.7	180.9	117.9	88.0	67.0	54.1	47.7	43.6	44.4
57.5°	9872.0	6400.1	312.6	161.6	106.6	78.4	59.0	47.7	41.2	37.2	38.0
60°	11082.1	7048.8	283.5	138.9	96.1	70.3	51.7	41.2	37.2	32.3	32.3
62.5°	12152.4	7436.5	241.5	120.4	86.4	62.2	46.0	37.2	33.9	29.1	29.1
65°	12881.0	7454.3	194.7	103.4	75.9	53.3	40.4	34.7	31.5	25.8	25.0
67.5°	12891.5	6969.6	155.9	92.1	67.0	46.9	36.4	33.1	29.1	24.2	22.6
70°	11538.5	5757.9	130.1	80.8	58.2	41.2	31.5	31.5	28.3	23.4	21.0
72.5°	9229.8	4400.0	109.1	70.3	51.7	35.5	29.1	29.9	27.5	23.4	21.0
75°	6203.8	2523.5	90.5	59.8	45.2	29.9	28.3	29.1	28.3	23.4	20.2
77.5°	2857.2	803.8	70.3	49.3	38.8	25.0	27.5	27.5	25.8	21.0	17.8
80°	643.8	197.9	50.9	36.4	31.5	18.6	25.0	22.6	20.2	14.5	10.5
82.5°	234.3	60.6	30.7	22.6	19.4	7.3	16.2	16.2	14.5	10.5	6.5
85°	134.1	31.5	17.0	14.5	10.5	3.2	8.9	9.7	8.1	7.3	3.2
87.5°	43.6	7.3	8.1	8.9	8.1	1.6	3.2	3.2	2.4	1.6	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)