

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: P368409

Luminaire Tested: **MSA-SA4B-760-U-SL3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368409
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-760-U-SL3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15954 lumens
Efficiency: N/A
Efficacy: 93.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G3

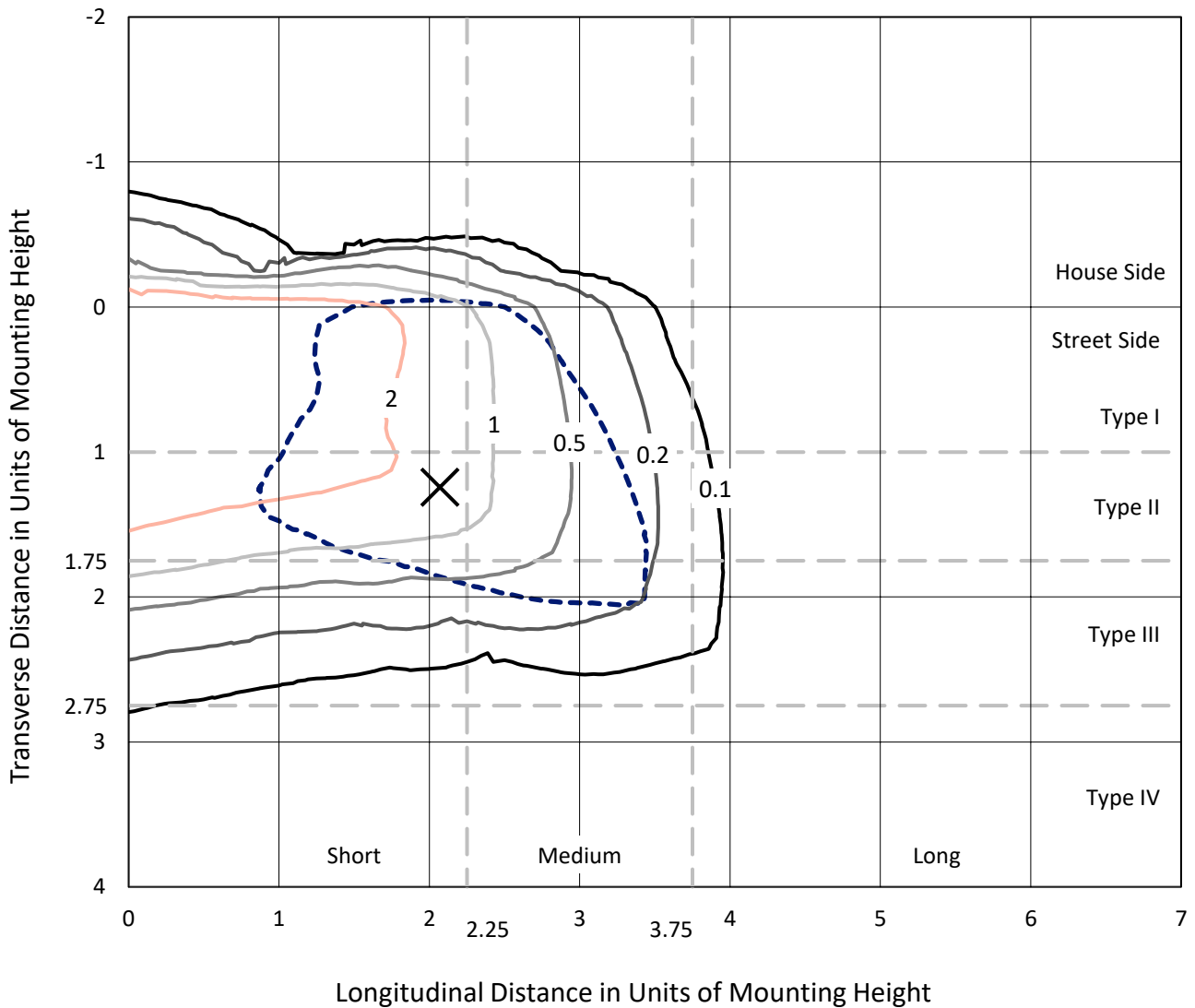
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

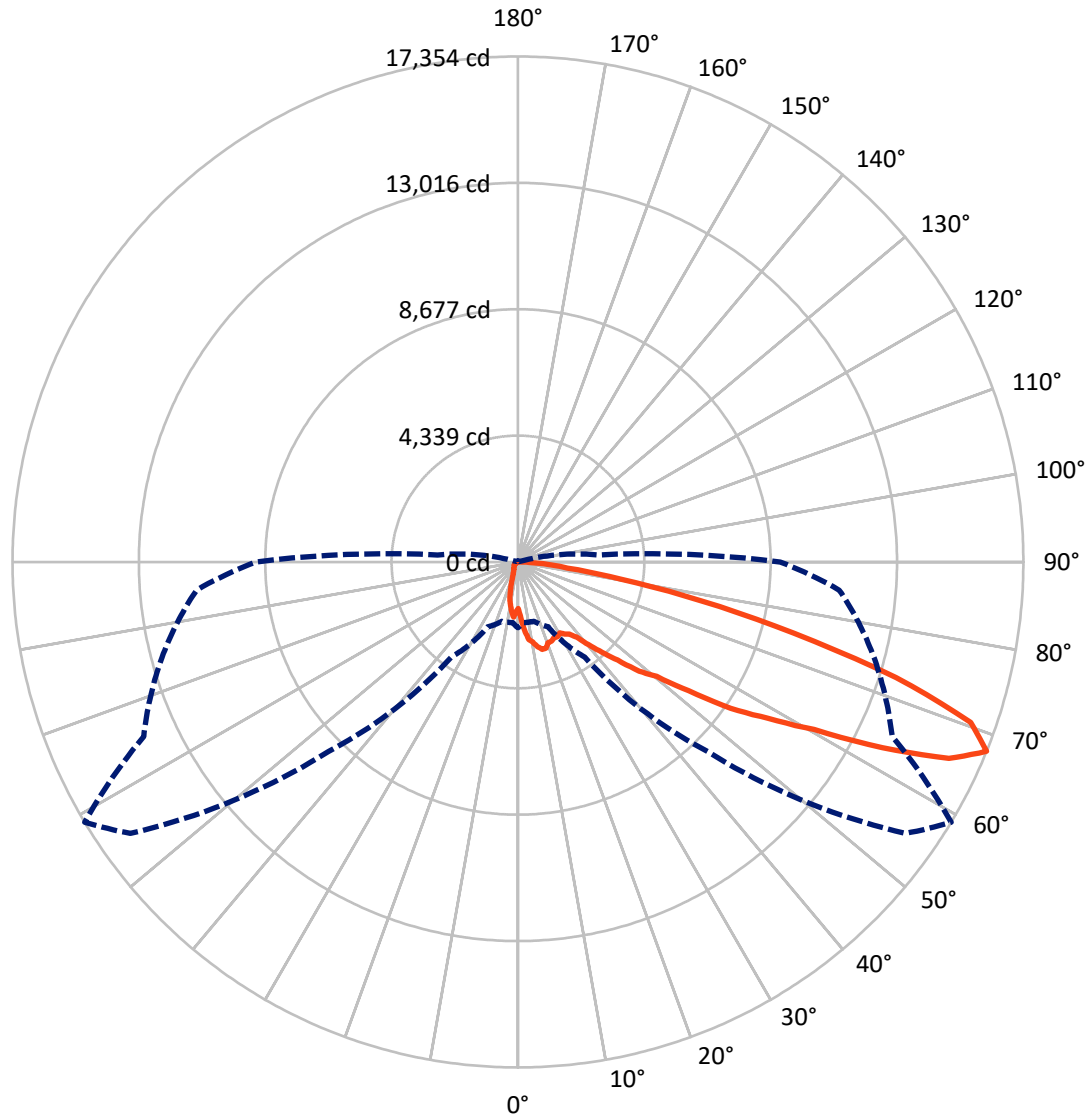
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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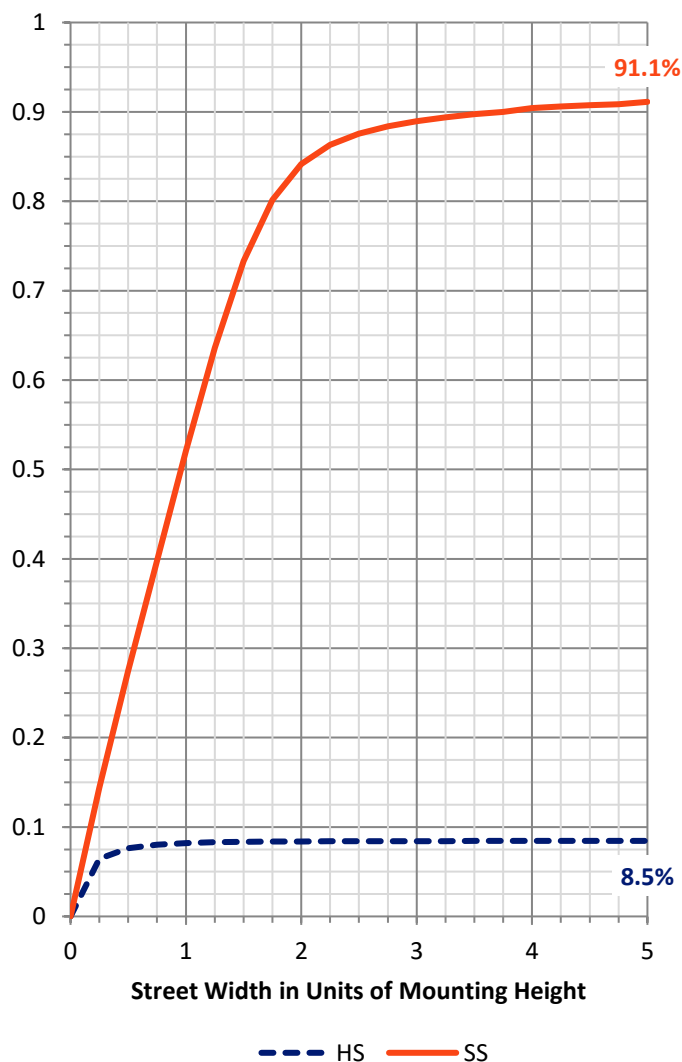
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1356.8	0.0	1356.8
	% Fixture	8.5	0.0	8.5
Street Side	Lumens	14597.2	0.0	14597.2
	% Fixture	91.5	0.0	91.5
Total	Lumens	15954.0	0.0	15954.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.1	1.2
10°-20°	546.5	3.4
20°-30°	812.9	5.1
30°-40°	1254.1	7.9
40°-50°	2238.1	14.0
50°-60°	3982.8	25.0
60°-70°	4638.6	29.1
70°-80°	2062.8	12.9
80°-90°	224.0	1.4
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°	15954.0	100.0
0°-180°	15954.0	100.0

Coefficient of Utilization

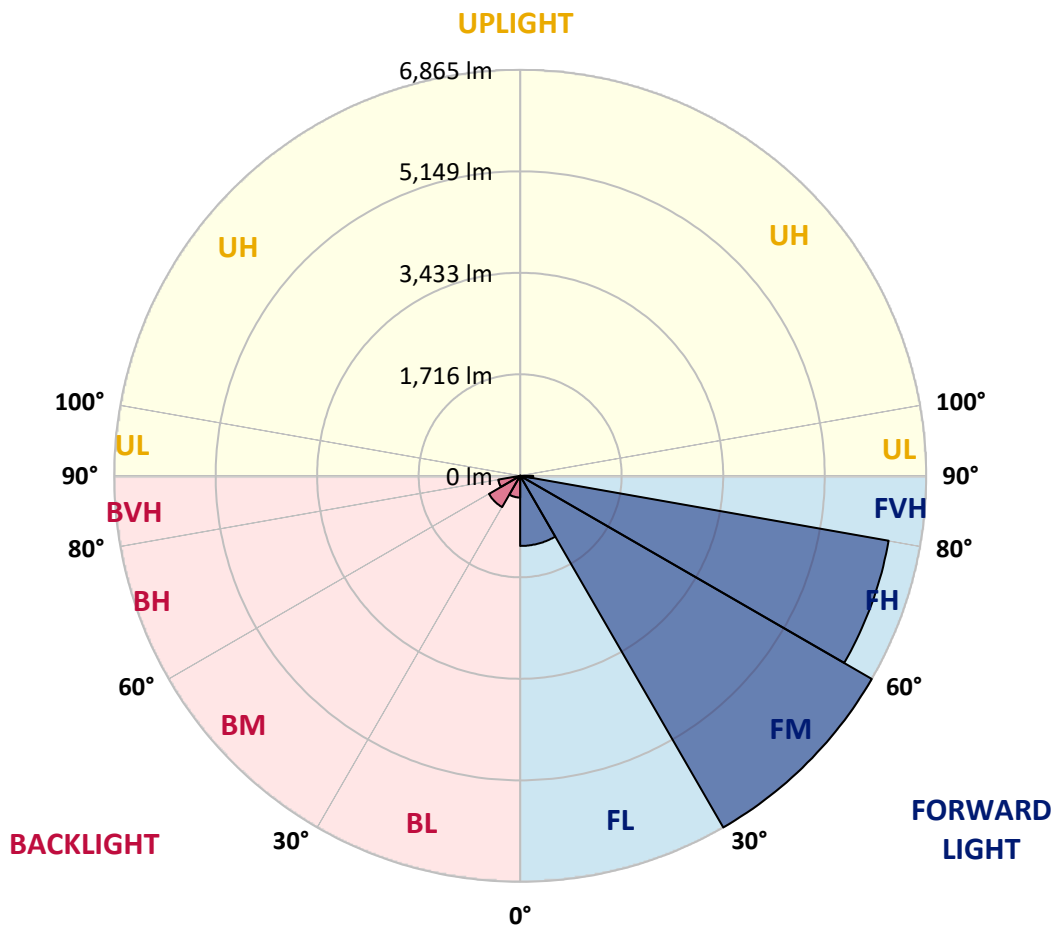


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1186.5	7.4			
FM (30°-60°)	6865.0	43.0			
FH (60°-80°)	6325.6	39.6			G3/7500
FVH (80°-90°)	220.0	1.4			G2/225
BL (0°-30°)	366.9	2.3	B1/500		
BM (30°-60°)	610.0	3.8	B1/1000		
BH (60°-80°)	375.8	2.4	B1/500		G1/500
BVH (80°-90°)	4.0	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3
 Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2
2.5°	2080.9	2002.6	1891.1	1924.2	1954.1	1982.4	1935.5	1908.9	1895.9	1781.2	1925.0
5°	2555.1	2457.4	2406.5	2393.6	2361.3	2289.4	2408.9	2355.6	2373.4	2396.0	2442.8
7.5°	2699.7	2655.3	2581.8	2609.3	2486.5	2476.0	2641.6	2687.6	2748.2	2707.0	2763.5
10°	2625.4	2548.7	2583.4	2573.7	2568.9	2677.1	2793.4	2795.9	2886.3	2930.0	2738.5
12.5°	2478.4	2487.3	2611.7	2602.0	2763.5	2980.0	3006.7	2978.4	3126.3	3050.3	3021.2
15°	2576.1	2648.8	2580.2	2603.6	2661.0	2931.6	3026.1	3113.3	3253.1	3298.3	3102.0
17.5°	2694.1	2701.3	2576.1	2547.1	2691.7	2817.7	3040.6	3112.5	3126.3	3522.9	3283.8
20°	2630.3	2692.5	2543.0	2359.6	2584.2	2755.5	2981.7	2959.0	3051.1	3589.1	3325.0
22.5°	2799.9	2711.0	2519.6	2381.4	2457.4	2613.3	2804.7	2952.6	3090.7	3430.8	3378.3
25°	2816.1	2783.7	2613.3	2490.5	2477.6	2517.2	2783.7	2879.1	3095.6	3573.0	3333.1
27.5°	2997.8	2960.7	2611.7	2623.8	2502.6	2380.6	2682.0	2905.7	3183.6	3486.5	3429.2
30°	3232.1	3235.3	2785.4	2823.3	2650.5	2454.2	2765.2	2826.6	3243.4	3624.7	3500.3
32.5°	3469.6	3567.3	3128.7	2927.5	2873.4	2732.8	2661.8	2945.3	3178.0	3860.6	3678.0
35°	3830.7	3896.9	3411.4	3231.3	3018.8	2858.9	2942.9	3044.7	3413.0	4173.2	3911.5
37.5°	4442.2	4322.6	3918.7	3605.3	3554.4	3318.5	3360.5	3269.2	3653.0	4541.6	4373.5
40°	4786.3	4678.1	4258.0	4105.3	3780.6	3816.9	3684.5	3737.8	4001.1	4925.3	4794.4
42.5°	5145.0	5041.6	4673.2	4565.0	4255.6	4105.3	4045.6	4237.0	4535.1	5564.3	5397.8
45°	5505.3	5242.7	5086.8	5141.0	5002.0	4704.7	4635.3	4805.7	5118.3	6349.5	6034.4
47.5°	5809.0	5587.7	5470.5	5445.5	5391.4	5804.2	5521.4	5596.6	5734.7	7044.2	6827.7
50°	6356.7	6138.6	5955.2	5904.3	6167.7	6753.4	6317.1	6171.7	6448.0	7883.5	7747.0
52.5°	7147.6	6869.7	6578.1	6578.9	7075.7	7397.2	7604.0	7348.7	7400.4	8806.8	8746.2
55°	7783.3	7430.3	7188.8	7379.4	8120.2	8300.3	9089.6	8865.8	8798.8	9663.1	9588.8
57.5°	7870.6	7447.3	7332.6	7667.0	8680.8	9831.1	10680.2	10121.2	10018.6	10379.7	10527.5
60°	7056.3	6607.1	6693.6	7231.6	8863.4	10764.2	12140.7	11684.3	11032.4	11219.0	11320.8
62.5°	5262.9	4904.3	5146.6	5859.1	8159.8	11389.4	13831.5	14043.1	12208.6	11849.1	11827.3
65°	3414.6	3190.1	3349.2	3933.3	6175.0	11318.3	15342.1	16259.8	13135.1	12362.9	11986.4
67.5°	2258.7	2088.2	2110.8	2456.6	3993.0	9205.1	16245.2	17354.4	14177.2	12654.5	11074.4
70°	1683.5	1549.4	1557.5	1744.9	2370.1	6070.8	14985.8	16490.8	14557.7	11643.9	8938.5
72.5°	1214.2	1124.5	1199.6	1408.0	1888.7	3210.3	11169.7	13581.0	12694.1	9184.1	6022.3
75°	840.9	782.0	904.8	1177.8	1723.9	1992.9	7381.0	9776.2	8897.3	5762.2	2722.3
77.5°	466.1	448.3	625.3	959.7	1564.7	1633.4	4521.4	6423.8	4935.0	2065.6	647.9
80°	203.6	197.1	302.9	720.6	1315.1	1475.9	2545.4	3561.7	1941.2	368.4	209.2
82.5°	87.2	84.0	129.3	433.8	955.6	1234.3	1569.6	1714.2	668.1	113.9	118.7
85°	15.3	17.0	51.7	228.6	581.6	626.9	1136.6	1014.6	336.1	54.1	84.8
87.5°	0.0	0.0	8.1	44.4	109.1	179.3	492.8	355.4	63.8	17.8	14.5
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°	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2	1596.2
2.5°	1945.2	1900.0	1727.9	1706.1	1682.7	1647.9	1635.0	1560.7	1551.0	1646.3	1646.3
5°	2421.0	2259.5	2095.5	1966.2	1850.7	1690.8	1645.5	1598.7	1560.7	1551.0	1580.9
7.5°	2672.3	2475.2	2217.5	1888.7	1622.1	1390.3	1293.3	1225.5	1149.5	1172.1	1184.3
10°	2658.5	2449.3	2120.5	1698.0	1402.4	1146.3	899.9	756.1	676.1	636.6	631.7
12.5°	2793.4	2596.3	2055.1	1546.2	1168.9	815.1	566.3	463.7	404.7	405.5	400.7
15°	2871.8	2656.9	1979.2	1353.9	823.2	524.3	392.6	370.0	361.9	370.8	365.9
17.5°	3009.9	2720.7	1807.1	1067.1	566.3	395.8	361.1	352.2	362.7	381.3	376.4
20°	2999.4	2610.1	1562.3	752.1	418.4	356.2	341.7	328.0	349.8	369.2	365.9
22.5°	2989.7	2501.8	1332.1	555.0	349.8	324.7	312.6	307.0	318.3	340.9	345.7
25°	2904.1	2448.5	1098.6	416.8	316.7	294.9	289.2	284.4	288.4	307.0	306.2
27.5°	3009.1	2313.6	848.2	349.8	293.2	267.4	262.5	254.5	246.4	262.5	265.0
30°	2987.3	2332.2	664.8	307.8	269.8	235.1	236.7	219.7	205.2	219.7	219.7
32.5°	3066.5	2196.5	532.4	279.5	246.4	221.3	201.1	183.4	172.9	181.8	183.4
35°	3182.0	2202.1	416.8	261.7	226.2	197.1	172.9	155.1	145.4	149.4	151.9
37.5°	3568.9	2163.3	348.2	248.0	218.9	182.6	157.5	134.1	127.6	132.5	134.9
40°	3821.0	2266.7	307.0	240.7	200.3	168.0	134.9	117.9	112.3	114.7	118.7
42.5°	4296.0	2324.1	286.8	232.7	183.4	143.8	115.5	105.8	97.7	101.0	104.2
45°	4804.1	2421.8	271.4	223.8	170.4	126.0	101.8	93.7	83.2	84.0	87.2
47.5°	5428.5	2654.5	253.7	208.4	152.7	114.7	90.5	78.4	68.7	67.9	71.9
50°	6267.1	2965.5	237.5	189.0	141.4	105.0	79.2	63.8	55.7	53.3	56.5
52.5°	7162.1	3367.8	220.5	175.3	127.6	92.1	67.9	51.7	44.4	42.8	45.2
55°	8049.1	3753.9	204.4	166.4	113.1	79.2	57.4	42.8	36.4	34.7	36.4
57.5°	9059.7	4171.6	183.4	148.6	99.4	68.7	47.7	35.5	29.9	28.3	29.1
60°	9820.6	4318.6	165.6	129.3	86.4	60.6	40.4	28.3	24.2	22.6	23.4
62.5°	10181.7	4078.7	148.6	112.3	75.9	52.5	33.9	23.4	20.2	18.6	18.6
65°	10088.0	3547.1	131.7	96.1	65.4	43.6	26.7	20.2	17.8	15.3	14.5
67.5°	9005.6	2775.7	112.3	80.8	54.9	35.5	22.6	19.4	16.2	14.5	12.1
70°	7141.9	2009.9	91.3	67.0	46.0	29.1	17.8	17.8	15.3	14.5	11.3
72.5°	4681.3	1265.0	74.3	54.1	38.0	22.6	13.7	16.2	14.5	14.5	10.5
75°	2028.4	452.4	59.8	43.6	31.5	15.3	12.1	14.5	15.3	14.5	12.1
77.5°	475.0	140.6	46.9	34.7	25.9	10.5	12.1	14.5	15.3	13.7	10.5
80°	178.5	59.8	30.7	22.6	20.2	6.5	10.5	8.9	8.1	5.7	1.6
82.5°	108.2	25.0	16.2	11.3	9.7	1.6	4.8	3.2	1.6	1.6	0.0
85°	76.7	12.1	8.9	8.1	4.8	0.0	0.8	0.0	0.0	0.8	0.0
87.5°	10.5	3.2	4.0	4.0	3.2	0.0	0.0	0.0	0.0	0.0	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)