

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: P367387

Luminaire Tested: **MSA-SA2B-830-U-T4FT-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367387
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2B-830-U-T4FT-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5927 lumens
Efficiency: N/A
Efficacy: 69.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

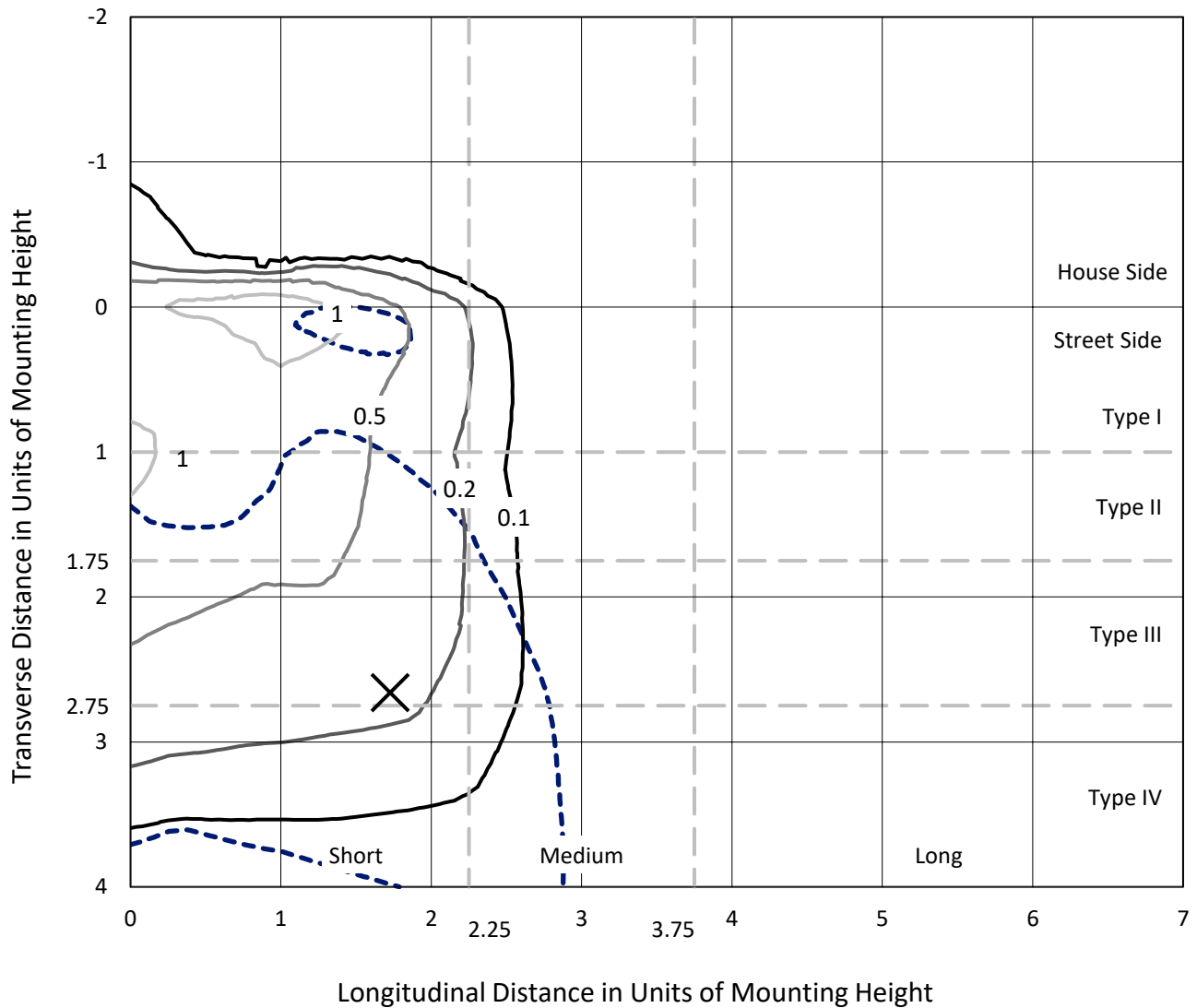
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

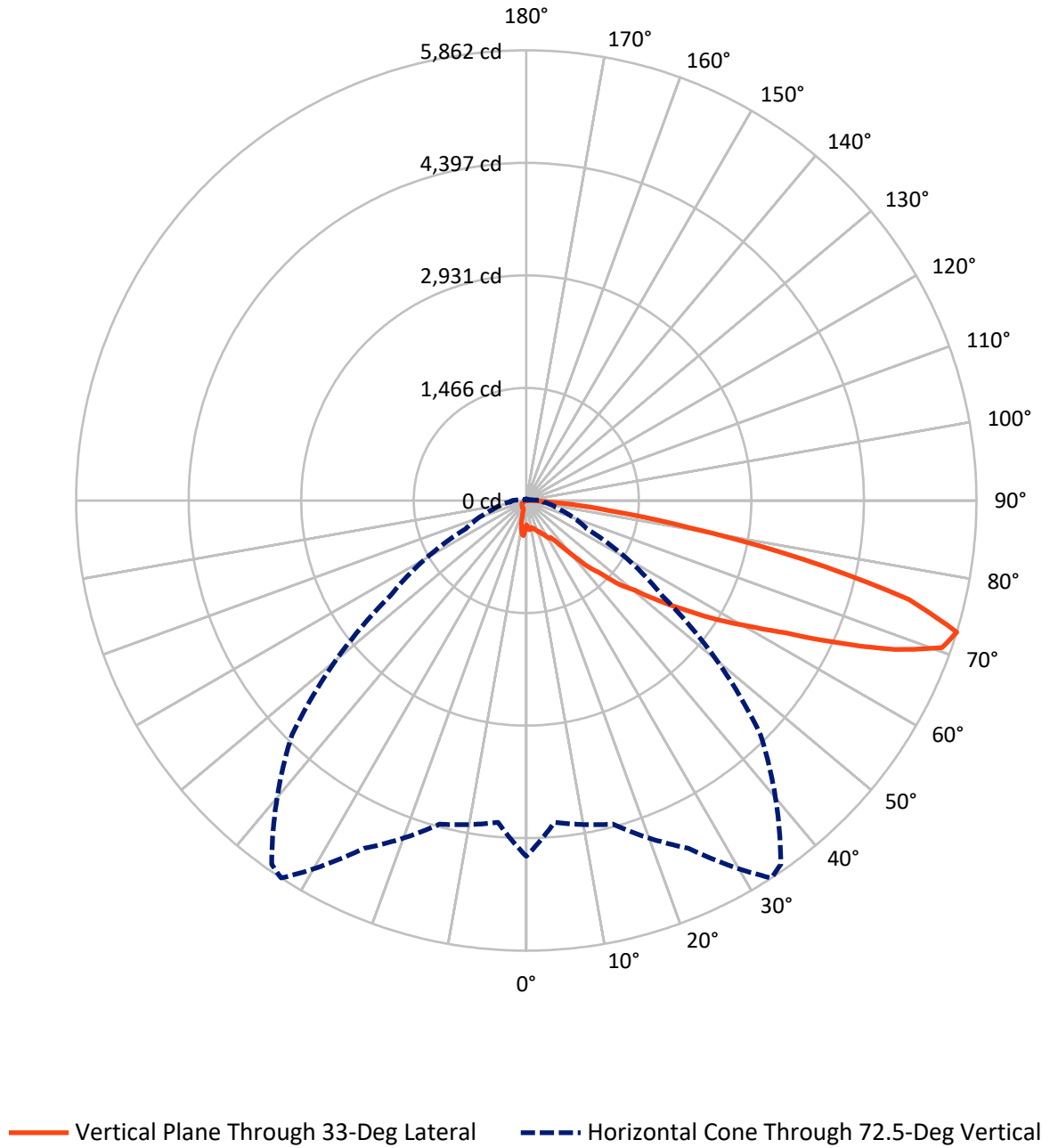
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.5 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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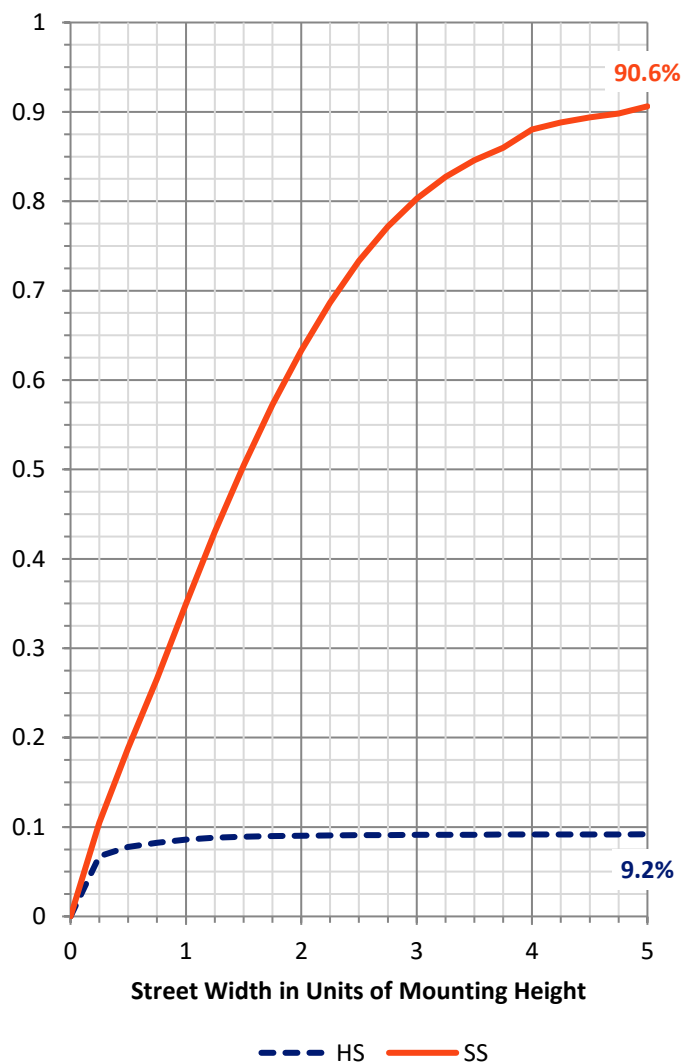
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	548.0	0.0	548.0
	% Fixture	9.2	0.0	9.2
Street Side	Lumens	5379.0	0.0	5379.0
	% Fixture	90.8	0.0	90.8
Total	Lumens	5927.0	0.0	5927.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.8	0.7
10°-20°	121.6	2.1
20°-30°	206.2	3.5
30°-40°	377.4	6.4
40°-50°	796.5	13.4
50°-60°	1332.5	22.5
60°-70°	1783.7	30.1
70°-80°	1165.1	19.7
80°-90°	103.3	1.7
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°	5927.0	100.0
0°-180°	5927.0	100.0

Coefficient of Utilization



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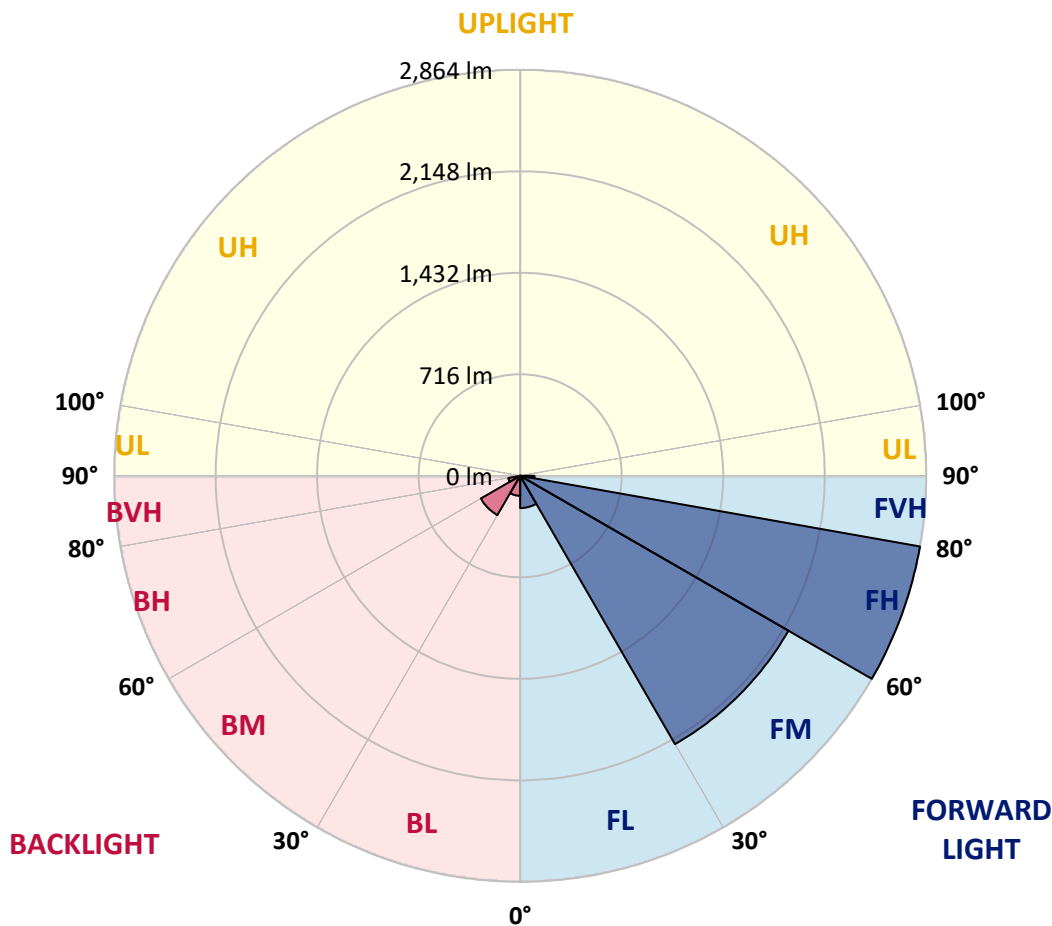
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	227.5	3.8			
FM (30°-60°)	2186.0	36.9			
FH (60°-80°)	2864.2	48.3			G2/5000
FVH (80°-90°)	101.3	1.7			G2/225
BL (0°-30°)	141.1	2.4	B1/500		
BM (30°-60°)	320.4	5.4	B1/1000		
BH (60°-80°)	84.6	1.4	B0/110		G0/110
BVH (80°-90°)	2.0	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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2
2.5°	375.8	361.3	340.3	341.6	345.2	348.2	356.1	352.8	346.5	346.2	375.8
5°	398.2	382.0	380.7	382.7	381.7	387.0	380.4	401.8	419.9	441.6	476.5
7.5°	387.3	379.7	370.2	380.1	379.7	377.1	381.4	424.8	468.6	496.2	553.8
10°	356.1	347.5	354.7	358.0	355.7	367.2	395.9	431.4	483.7	541.6	569.6
12.5°	347.2	352.4	355.1	355.1	377.1	383.0	426.8	460.4	522.6	568.3	649.6
15°	381.7	391.9	373.8	369.9	376.8	380.1	428.8	469.3	548.9	632.5	700.6
17.5°	436.7	436.0	408.0	392.6	403.4	411.3	438.3	485.7	532.4	682.8	781.5
20°	474.5	475.2	424.8	392.6	428.4	433.1	463.0	500.8	537.7	708.2	834.5
22.5°	523.2	505.8	450.2	418.9	443.3	447.5	480.4	510.4	564.7	705.2	902.3
25°	563.0	551.8	481.8	460.0	481.8	475.8	505.8	550.9	593.6	752.3	942.1
27.5°	624.9	605.8	504.1	508.1	506.8	511.0	518.0	587.1	644.6	754.6	1034.3
30°	682.5	671.3	554.2	554.2	567.0	558.8	563.7	647.3	694.0	807.9	1137.9
32.5°	742.0	742.7	613.1	581.8	571.6	605.5	638.7	676.6	753.6	899.3	1296.5
35°	899.7	886.5	725.9	647.9	639.7	637.7	691.0	793.4	859.2	1018.5	1510.1
37.5°	1217.2	1171.5	968.8	798.0	767.1	756.5	817.1	922.0	987.5	1193.5	1863.2
40°	1543.0	1459.1	1234.0	1041.5	941.1	895.7	966.1	1055.3	1171.8	1387.0	2190.0
42.5°	1829.0	1725.3	1433.8	1304.1	1173.5	1153.7	1087.6	1232.7	1435.1	1668.7	2510.1
45°	2107.7	1903.7	1611.4	1508.8	1350.2	1361.4	1339.0	1464.7	1708.5	1977.4	2794.1
47.5°	2299.5	2116.2	1829.3	1696.0	1632.5	1567.0	1744.7	1875.4	1952.0	2173.5	3039.6
50°	2506.2	2320.6	2016.5	1923.4	1839.8	1906.0	2136.6	2154.1	2147.8	2356.5	3206.8
52.5°	2773.1	2554.2	2231.4	2126.1	2173.5	2239.3	2505.5	2508.8	2321.9	2510.5	3327.2
55°	3019.9	2777.3	2517.7	2418.3	2517.4	2573.0	2868.2	2759.9	2423.3	2615.1	3386.4
57.5°	3367.7	3087.0	2898.4	2723.4	2924.1	2870.8	3187.0	3026.1	2537.1	2684.5	3364.7
60°	3807.3	3476.9	3288.1	3102.8	3318.0	3354.2	3498.3	3159.1	2581.2	2707.2	3234.1
62.5°	4254.5	3922.2	3673.7	3548.0	3792.2	3911.3	3786.6	3225.2	2528.2	2662.8	2938.3
65°	4809.3	4383.8	4093.6	4019.9	4472.4	4647.4	4127.5	3241.3	2425.9	2418.3	2362.4
67.5°	5189.4	4775.1	4508.9	4632.3	5178.9	5193.0	4433.5	3246.3	2081.4	1893.5	1550.6
70°	5279.6	4836.0	4716.9	5080.2	5742.6	5564.5	4532.3	2996.2	1543.7	1123.8	708.8
72.5°	4634.6	4207.5	4362.5	4995.6	5862.4	5780.7	4314.1	2161.7	869.1	449.5	217.5
75°	2842.8	2584.5	3272.6	4235.4	5146.0	5093.3	3365.7	1116.9	350.1	179.7	81.3
77.5°	1236.3	1148.1	1707.9	2810.2	3697.7	3650.7	1972.1	411.3	181.0	126.4	41.1
80°	409.0	396.9	646.9	1330.8	2165.9	2124.5	830.9	171.1	129.0	101.4	23.0
82.5°	97.1	96.4	225.7	612.4	1103.4	1068.8	255.0	94.4	93.5	80.0	12.2
85°	24.4	25.0	62.5	250.4	448.2	395.2	66.5	47.1	65.8	54.3	6.3
87.5°	0.0	0.0	16.1	35.9	67.8	42.4	7.2	12.5	18.4	19.4	3.3
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°	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2
2.5°	382.4	378.8	349.1	356.4	367.6	366.6	373.8	368.2	363.3	387.6	385.3
5°	486.4	466.6	457.4	470.2	463.3	447.2	460.7	458.4	454.4	462.7	468.9
7.5°	564.4	546.3	538.0	511.0	471.9	441.0	445.9	434.4	423.5	436.3	449.5
10°	590.0	580.1	579.2	526.5	489.7	444.9	391.9	346.2	334.0	317.9	325.1
12.5°	659.8	665.7	628.5	567.0	495.9	410.0	315.9	251.1	224.8	207.6	208.6
15°	717.0	737.8	683.8	573.2	436.3	312.6	210.3	152.0	135.6	131.3	130.0
17.5°	802.3	822.3	700.9	528.8	351.8	211.9	135.2	118.5	119.5	122.4	121.8
20°	865.4	862.5	686.1	450.2	259.3	138.9	113.2	110.9	116.2	124.7	122.7
22.5°	926.3	905.9	676.9	377.4	167.8	111.6	109.3	108.9	113.9	122.1	124.4
25°	969.8	973.1	661.4	295.5	122.1	103.7	105.6	108.6	113.5	122.4	121.1
27.5°	1094.2	1002.0	596.9	214.6	103.0	99.4	104.3	110.2	111.9	123.1	123.4
30°	1174.8	1111.3	554.8	144.5	95.1	91.8	101.7	109.6	111.6	126.0	127.0
32.5°	1315.3	1158.3	506.1	107.3	88.5	89.5	95.8	106.3	115.5	131.0	131.6
35°	1490.0	1309.4	417.9	96.4	86.2	84.6	87.5	99.7	114.8	131.6	134.9
37.5°	1822.7	1399.9	331.4	93.5	86.2	83.3	86.2	93.5	112.9	138.2	145.1
40°	2045.5	1584.1	238.9	92.8	84.6	81.9	82.9	90.2	107.3	134.3	144.5
42.5°	2319.9	1661.8	176.1	91.2	82.9	79.0	79.6	88.8	101.7	126.0	133.6
45°	2544.7	1718.4	138.5	90.5	79.0	77.7	79.0	87.9	96.4	108.3	115.2
47.5°	2715.5	1784.2	111.2	86.2	78.0	77.7	76.0	82.3	87.5	90.5	95.1
50°	2840.5	1769.4	92.1	79.6	74.7	76.7	73.7	74.7	76.0	74.4	79.6
52.5°	2917.2	1716.1	76.7	71.7	70.7	72.4	68.8	65.8	63.5	62.2	65.5
55°	2945.2	1609.1	65.2	61.5	63.8	64.5	61.5	56.3	52.3	50.3	53.0
57.5°	2892.2	1446.3	56.6	51.0	56.3	56.3	52.3	46.7	42.1	38.8	41.5
60°	2757.9	1266.3	50.3	42.4	48.0	48.4	43.8	37.8	34.2	30.9	32.6
62.5°	2507.8	1070.1	44.1	36.9	41.5	41.8	36.2	30.6	28.0	24.4	25.7
65°	2007.6	818.4	37.5	32.6	35.9	34.9	29.9	26.0	22.7	19.4	20.1
67.5°	1303.1	505.1	32.6	29.6	30.3	29.3	25.3	22.7	19.1	16.5	16.8
70°	583.4	217.5	28.6	26.7	26.3	24.7	21.4	21.1	18.8	16.5	16.5
72.5°	180.0	81.9	24.7	24.0	22.7	20.7	18.8	20.1	18.4	15.8	15.5
75°	71.1	37.5	20.4	20.4	19.7	17.1	16.8	18.1	17.1	14.5	13.8
77.5°	37.2	23.7	16.8	17.4	17.1	13.2	15.1	16.5	15.8	12.2	10.2
80°	22.0	14.5	12.5	14.1	13.8	9.2	11.5	10.5	7.6	3.6	1.0
82.5°	12.2	6.6	5.6	8.2	8.2	3.3	5.9	5.3	3.0	0.0	0.0
85°	5.9	4.6	4.3	4.6	3.3	1.0	3.0	3.0	1.6	0.0	0.0
87.5°	3.0	2.6	2.0	1.6	1.3	0.0	1.0	1.3	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)