

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: P367255

Luminaire Tested: **MSA-SA2A-830-U-T4FT-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367255
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-SA2A-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: 4730 lumens
Efficiency: N/A
Efficacy: 71.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

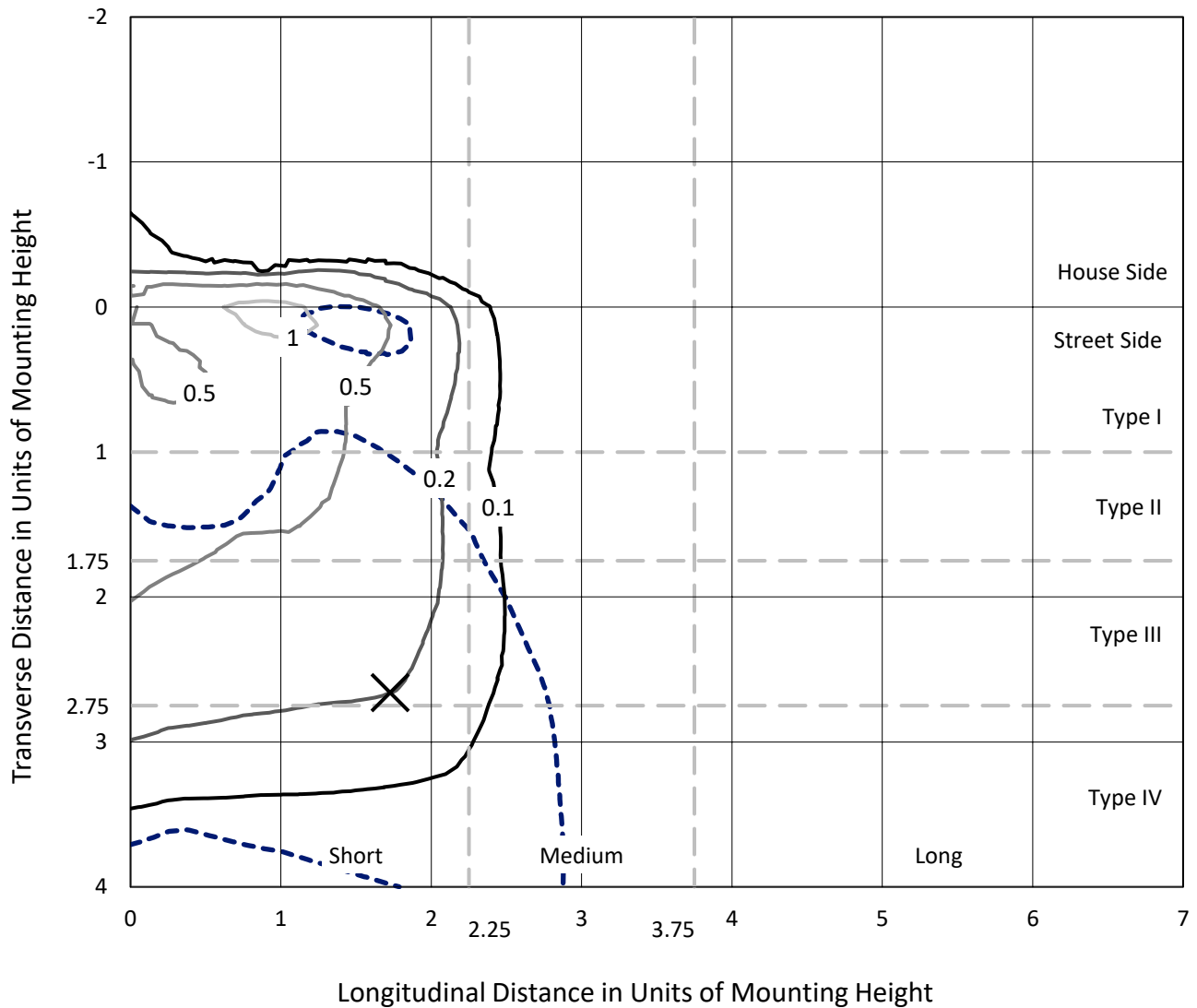
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

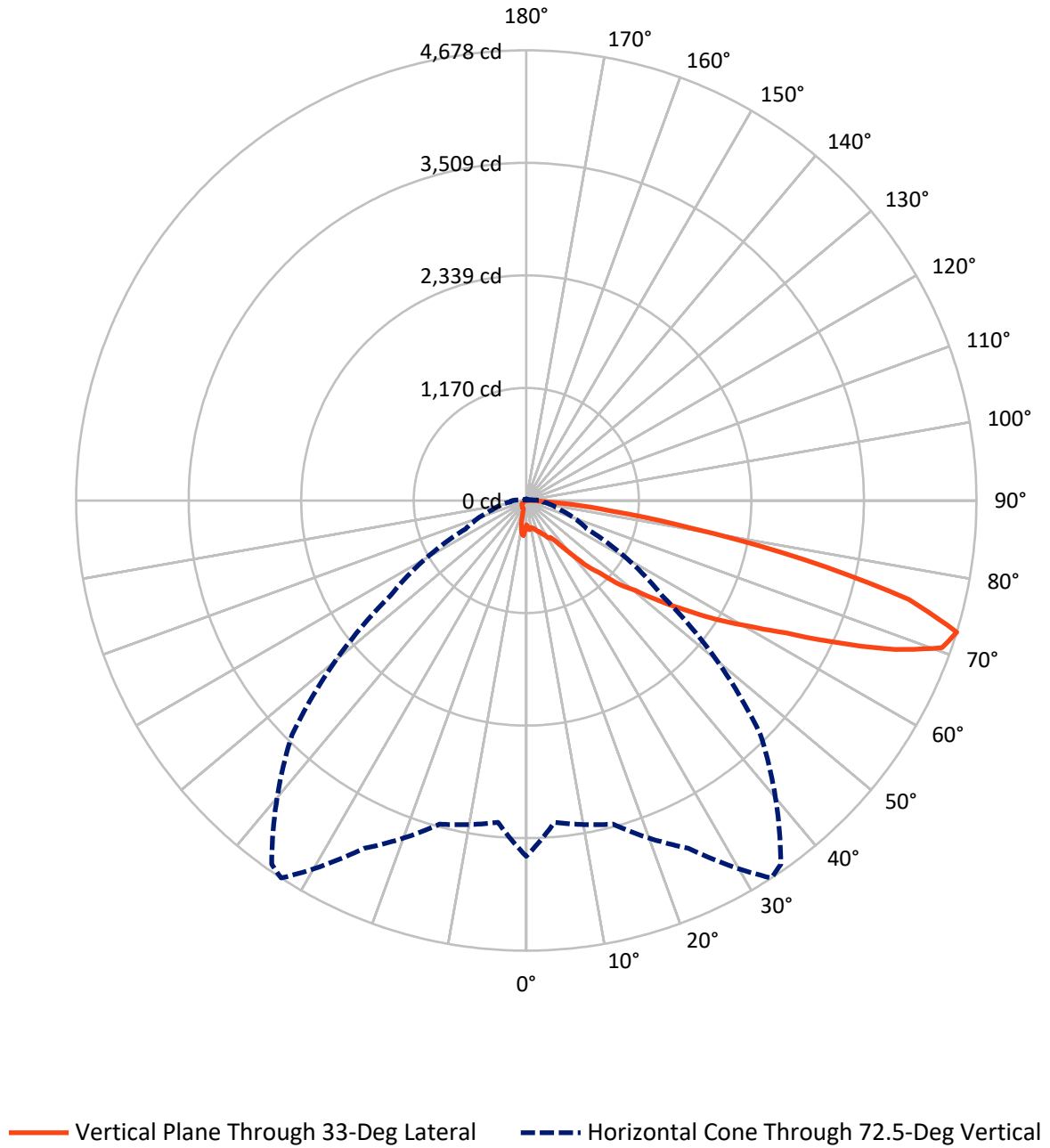
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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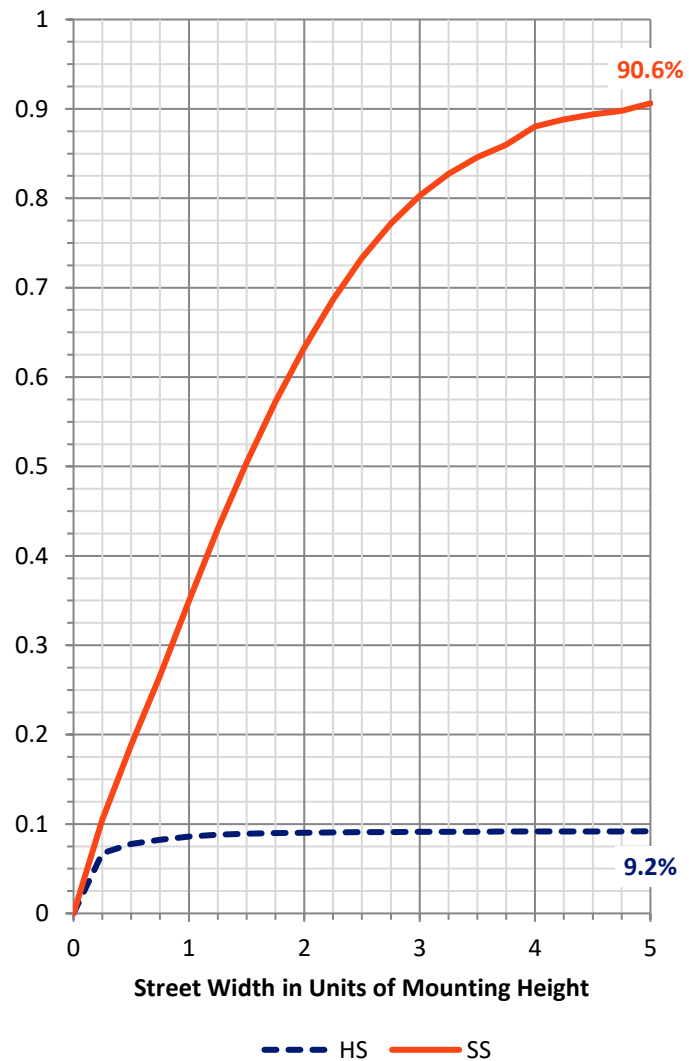
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	437.4	0.0	437.4
	% Fixture	9.2	0.0	9.2
Street Side	Lumens	4292.6	0.0	4292.6
	% Fixture	90.8	0.0	90.8
Total	Lumens	4730.0	0.0	4730.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.6	0.7
10°-20°	97.0	2.1
20°-30°	164.6	3.5
30°-40°	301.2	6.4
40°-50°	635.6	13.4
50°-60°	1063.4	22.5
60°-70°	1423.4	30.1
70°-80°	929.8	19.7
80°-90°	82.4	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°	4730.0	100.0
0°-180°	4730.0	100.0

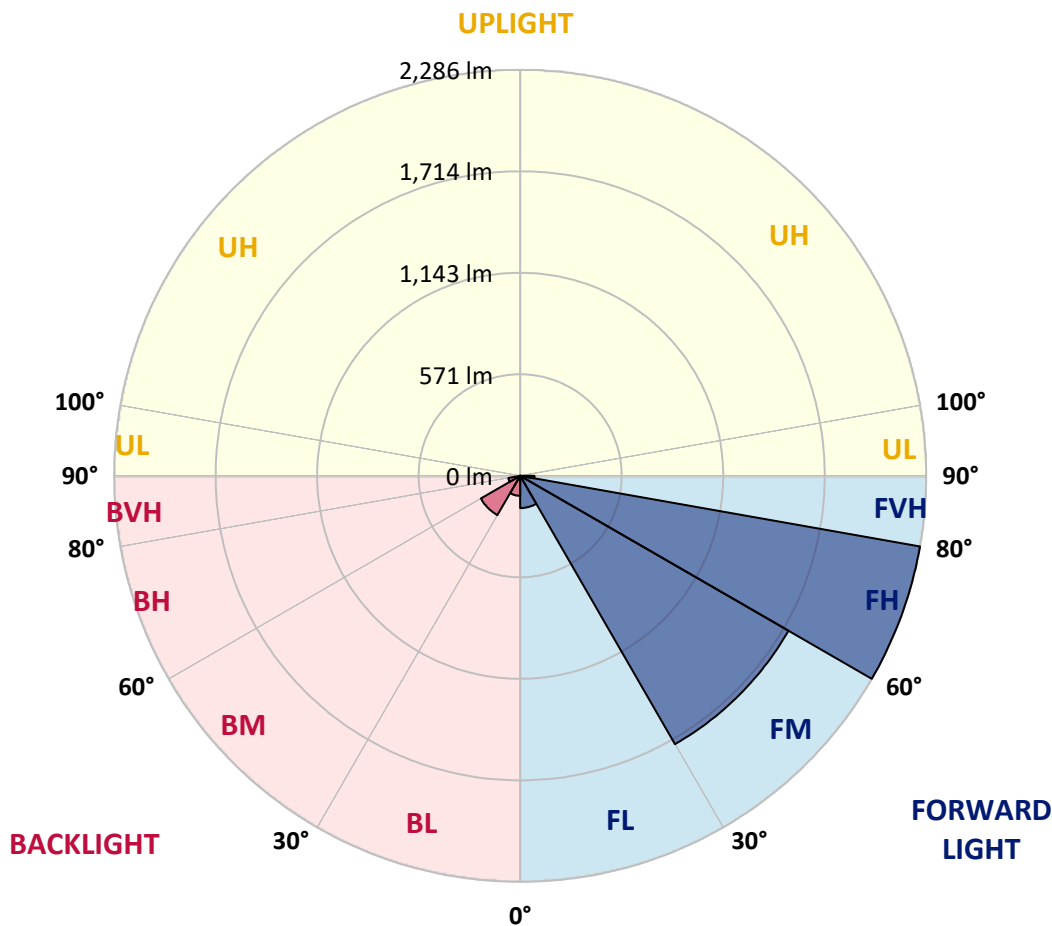


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	181.6	3.8			
FM (30°-60°)	1744.5	36.9			
FH (60°-80°)	2285.7	48.3			G2/5000
FVH (80°-90°)	80.8	1.7			G1/100
BL (0°-30°)	112.6	2.4	B1/500		
BM (30°-60°)	255.7	5.4	B1/1000		
BH (60°-80°)	67.5	1.4	B0/110		G0/110
BVH (80°-90°)	1.6	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°	251.6	251.6	251.6	251.6	251.6	251.6	251.6	251.6	251.6	251.6	251.6
2.5°	299.9	288.3	271.5	272.6	275.5	277.8	284.1	281.5	276.5	276.3	299.9
5°	317.8	304.9	303.8	305.4	304.6	308.8	303.6	320.6	335.1	352.4	380.3
7.5°	309.1	303.1	295.4	303.3	303.1	301.0	304.4	339.0	374.0	396.0	442.0
10°	284.1	277.3	283.1	285.7	283.9	293.1	315.9	344.3	386.0	432.3	454.6
12.5°	277.1	281.3	283.4	283.4	301.0	305.7	340.6	367.4	417.0	453.5	518.4
15°	304.6	312.8	298.3	295.2	300.7	303.3	342.2	374.5	438.0	504.7	559.1
17.5°	348.5	348.0	325.6	313.3	322.0	328.3	349.8	387.6	424.9	544.9	623.7
20°	378.7	379.2	339.0	313.3	341.9	345.6	369.5	399.7	429.1	565.1	666.0
22.5°	417.6	403.6	359.3	334.3	353.7	357.2	383.4	407.3	450.6	562.8	720.1
25°	449.3	440.4	384.5	367.1	384.5	379.7	403.6	439.6	473.7	600.3	751.9
27.5°	498.7	483.5	402.3	405.5	404.4	407.8	413.3	468.5	514.5	602.2	825.4
30°	544.7	535.7	442.2	442.2	452.5	445.9	449.9	516.6	553.8	644.7	908.1
32.5°	592.2	592.7	489.2	464.3	456.2	483.2	509.7	539.9	601.4	717.7	1034.7
35°	718.0	707.5	579.3	517.1	510.5	508.9	551.5	633.2	685.7	812.8	1205.1
37.5°	971.4	934.9	773.1	636.8	612.1	603.7	652.1	735.8	788.1	952.5	1486.9
40°	1231.4	1164.4	984.8	831.2	751.1	714.8	771.0	842.2	935.2	1106.9	1747.7
42.5°	1459.6	1376.9	1144.2	1040.7	936.5	920.7	867.9	983.7	1145.2	1331.7	2003.2
45°	1682.0	1519.2	1286.0	1204.1	1077.5	1086.4	1068.6	1168.9	1363.5	1578.0	2229.8
47.5°	1835.1	1688.8	1459.9	1353.5	1302.8	1250.6	1392.4	1496.6	1557.8	1734.5	2425.7
50°	2000.0	1851.9	1609.3	1535.0	1468.3	1521.0	1705.1	1719.0	1714.1	1880.6	2559.1
52.5°	2213.0	2038.4	1780.8	1696.7	1734.5	1787.1	1999.5	2002.1	1853.0	2003.5	2655.3
55°	2410.0	2216.4	2009.2	1929.9	2009.0	2053.4	2288.9	2202.5	1933.9	2087.0	2702.5
57.5°	2687.6	2463.6	2313.1	2173.4	2333.6	2291.0	2543.4	2415.0	2024.7	2142.4	2685.2
60°	3038.4	2774.7	2624.0	2476.2	2647.9	2676.8	2791.8	2521.1	2059.9	2160.5	2580.9
62.5°	3395.3	3130.1	2931.8	2831.5	3026.3	3121.4	3021.9	2573.8	2017.6	2125.0	2344.9
65°	3838.1	3498.5	3266.9	3208.1	3569.1	3708.9	3293.9	2586.7	1936.0	1929.9	1885.3
67.5°	4141.4	3810.7	3598.3	3696.8	4133.0	4144.3	3538.2	2590.7	1661.0	1511.1	1237.4
70°	4213.3	3859.3	3764.3	4054.2	4582.8	4440.7	3616.9	2391.1	1231.9	896.8	565.7
72.5°	3698.6	3357.7	3481.4	3986.7	4678.4	4613.3	3442.8	1725.1	693.6	358.7	173.6
75°	2268.7	2062.5	2611.7	3380.1	4106.7	4064.7	2686.0	891.3	279.4	143.4	64.9
77.5°	986.6	916.2	1362.9	2242.7	2951.0	2913.4	1573.8	328.3	144.4	100.8	32.8
80°	326.4	316.7	516.3	1062.0	1728.5	1695.4	663.1	136.6	102.9	80.9	18.4
82.5°	77.5	76.9	180.2	488.7	880.5	853.0	203.5	75.4	74.6	63.8	9.7
85°	19.4	20.0	49.9	199.8	357.7	315.4	53.0	37.6	52.5	43.3	5.0
87.5°	0.0	0.0	12.9	28.6	54.1	33.9	5.8	10.0	14.7	15.5	2.6
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°	251.6	251.6	251.6	251.6	251.6	251.6	251.6	251.6	251.6	251.6	251.6
2.5°	305.2	302.3	278.6	284.4	293.3	292.5	298.3	293.9	289.9	309.4	307.5
5°	388.1	372.4	365.0	375.3	369.8	356.9	367.7	365.8	362.7	369.2	374.2
7.5°	450.4	435.9	429.4	407.8	376.6	351.9	355.8	346.6	338.0	348.2	358.7
10°	470.9	463.0	462.2	420.2	390.8	355.0	312.8	276.3	266.5	253.7	259.5
12.5°	526.5	531.3	501.6	452.5	395.8	327.2	252.1	200.4	179.4	165.7	166.5
15°	572.2	588.8	545.7	457.5	348.2	249.5	167.8	121.3	108.2	104.8	103.7
17.5°	640.2	656.3	559.4	422.0	280.7	169.1	107.9	94.5	95.3	97.7	97.2
20°	690.7	688.3	547.5	359.3	206.9	110.8	90.3	88.5	92.7	99.5	98.0
22.5°	739.2	723.0	540.2	301.2	133.9	89.0	87.2	86.9	90.9	97.4	99.3
25°	773.9	776.5	527.8	235.8	97.4	82.7	84.3	86.7	90.6	97.7	96.6
27.5°	873.2	799.6	476.4	171.2	82.2	79.3	83.2	88.0	89.3	98.2	98.5
30°	937.5	886.8	442.8	115.3	75.9	73.3	81.1	87.4	89.0	100.6	101.4
32.5°	1049.7	924.4	403.9	85.6	70.6	71.4	76.4	84.8	92.2	104.5	105.0
35°	1189.1	1044.9	333.5	76.9	68.8	67.5	69.9	79.6	91.7	105.0	107.7
37.5°	1454.6	1117.1	264.4	74.6	68.8	66.4	68.8	74.6	90.1	110.3	115.8
40°	1632.4	1264.2	190.7	74.1	67.5	65.4	66.2	72.0	85.6	107.1	115.3
42.5°	1851.4	1326.2	140.5	72.7	66.2	63.0	63.6	70.9	81.1	100.6	106.6
45°	2030.8	1371.4	110.6	72.2	63.0	62.0	63.0	70.1	76.9	86.4	91.9
47.5°	2167.1	1423.9	88.8	68.8	62.2	62.0	60.7	65.7	69.9	72.2	75.9
50°	2266.9	1412.1	73.5	63.6	59.6	61.2	58.8	59.6	60.7	59.4	63.6
52.5°	2328.0	1369.5	61.2	57.2	56.5	57.8	54.9	52.5	50.7	49.6	52.3
55°	2350.4	1284.2	52.0	49.1	50.9	51.5	49.1	44.9	41.8	40.2	42.3
57.5°	2308.1	1154.2	45.2	40.7	44.9	44.9	41.8	37.3	33.6	31.0	33.1
60°	2200.9	1010.5	40.2	33.9	38.3	38.6	34.9	30.2	27.3	24.7	26.0
62.5°	2001.4	854.0	35.2	29.4	33.1	33.4	28.9	24.4	22.3	19.4	20.5
65°	1602.2	653.1	29.9	26.0	28.6	27.8	23.9	20.7	18.1	15.5	16.0
67.5°	1039.9	403.1	26.0	23.6	24.2	23.4	20.2	18.1	15.2	13.1	13.4
70°	465.6	173.6	22.8	21.3	21.0	19.7	17.1	16.8	15.0	13.1	13.1
72.5°	143.6	65.4	19.7	19.2	18.1	16.5	15.0	16.0	14.7	12.6	12.3
75°	56.7	29.9	16.3	16.3	15.8	13.7	13.4	14.4	13.7	11.6	11.0
77.5°	29.7	18.9	13.4	13.9	13.7	10.5	12.1	13.1	12.6	9.7	8.1
80°	17.6	11.6	10.0	11.3	11.0	7.4	9.2	8.4	6.0	2.9	0.8
82.5°	9.7	5.3	4.5	6.6	6.6	2.6	4.7	4.2	2.4	0.0	0.0
85°	4.7	3.7	3.4	3.7	2.6	0.8	2.4	2.4	1.3	0.0	0.0
87.5°	2.4	2.1	1.6	1.3	1.1	0.0	0.8	1.1	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)