

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: P367686

Luminaire Tested: **MSA-SA3A-730-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367686
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3A-730-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10406 lumens
Efficiency: N/A
Efficacy: 108.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

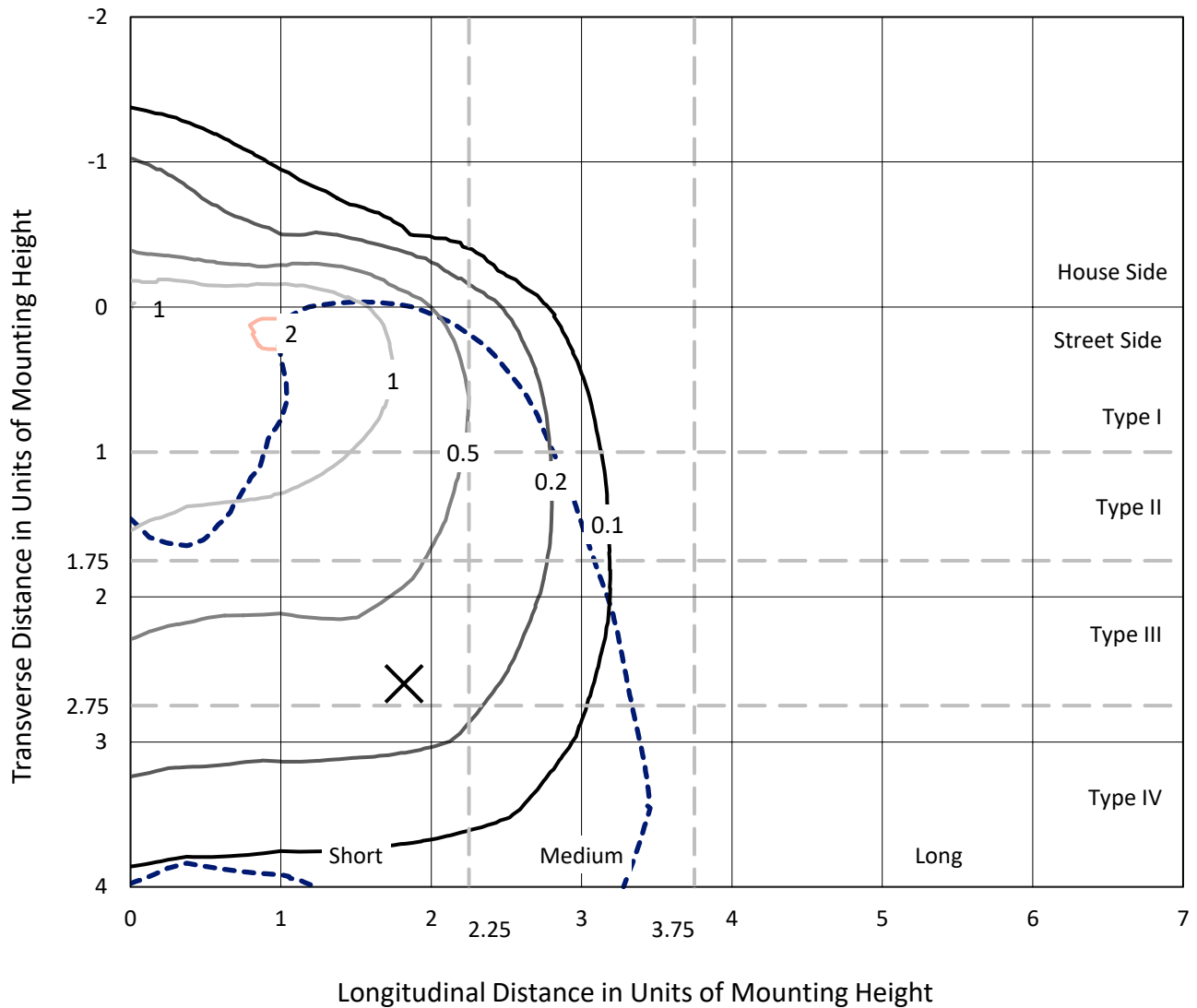
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

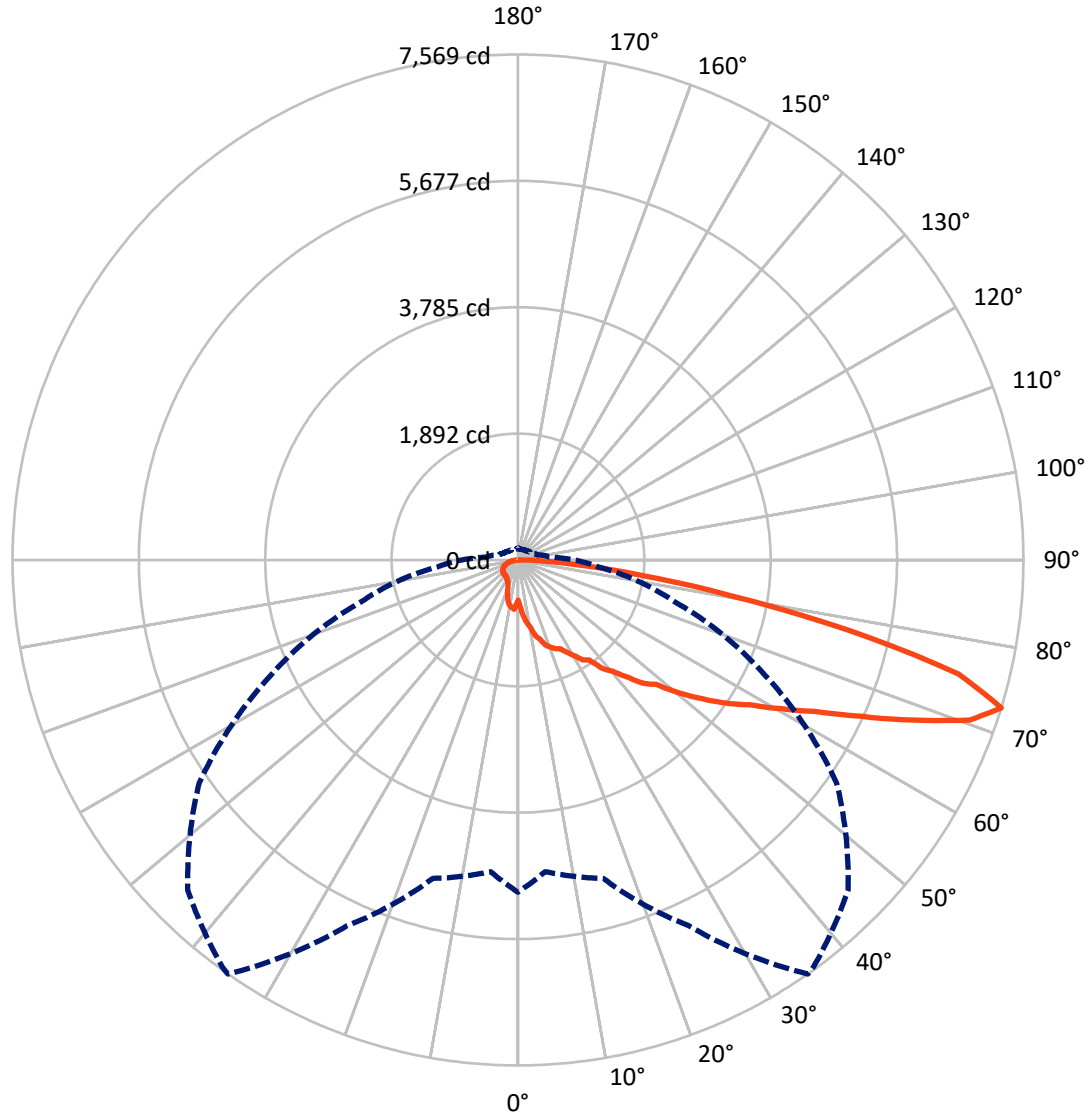
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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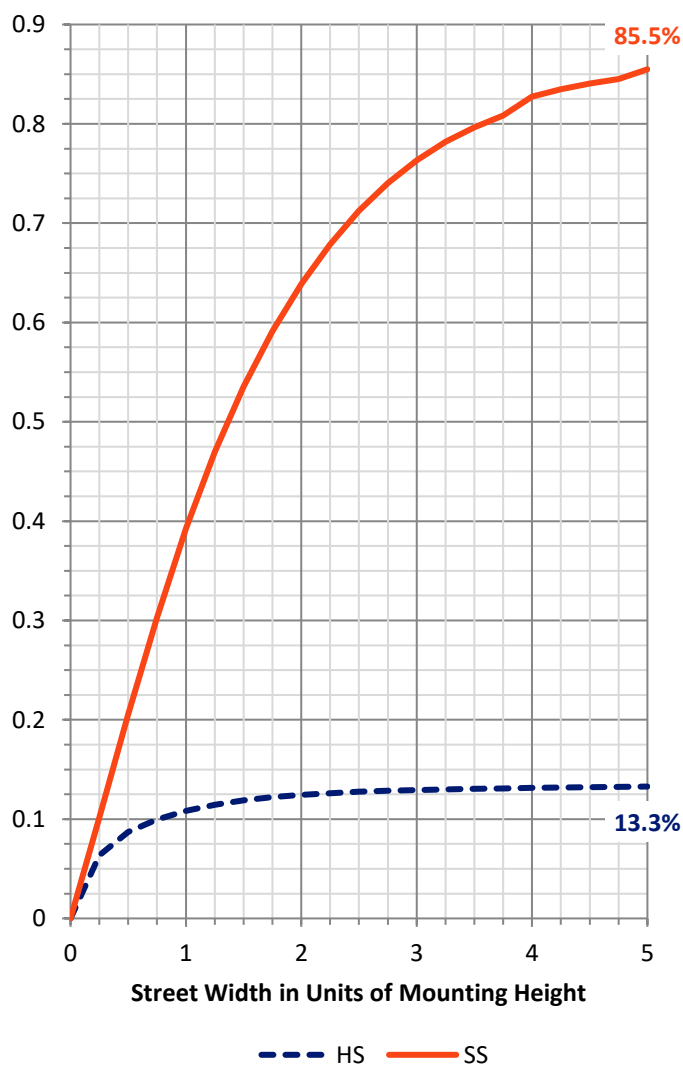
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1396.5	0.0	1396.5
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	9009.6	0.0	9009.6
	% Fixture	86.6	0.0	86.6
Total	Lumens	10406.0	0.0	10406.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.9	0.8
10°-20°	281.5	2.7
20°-30°	489.2	4.7
30°-40°	817.6	7.9
40°-50°	1419.0	13.6
50°-60°	2145.2	20.6
60°-70°	2779.1	26.7
70°-80°	2050.7	19.7
80°-90°	343.7	3.3
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°	10406.0	100.0
0°-180°	10406.0	100.0

Coefficient of Utilization



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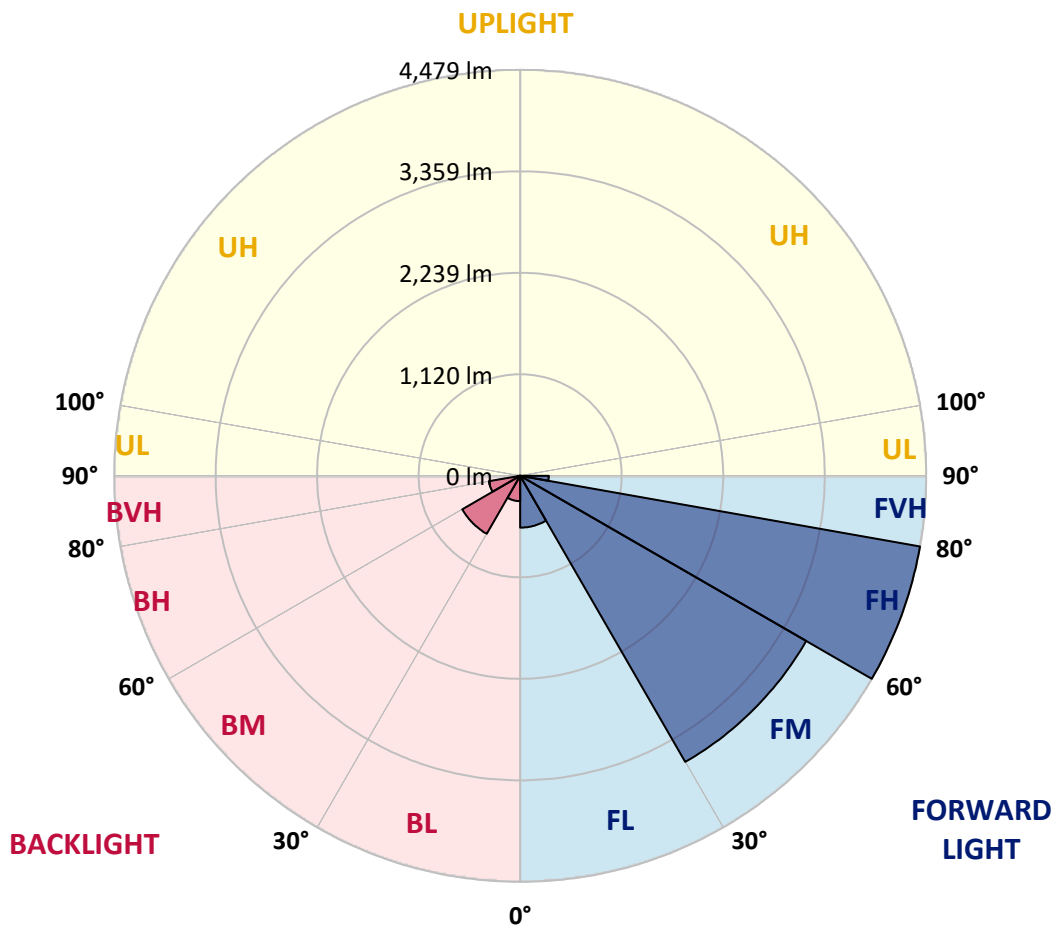
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	571.5	5.5			
FM (30°-60°)	3643.8	35.0			
FH (60°-80°)	4478.7	43.0			G2/5000
FVH (80°-90°)	315.6	3.0			G3/500
BL (0°-30°)	279.1	2.7	B1/500		
BM (30°-60°)	738.1	7.1	B1/1000		
BH (60°-80°)	351.1	3.4	B1/500		G1/500
BVH (80°-90°)	28.1	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	601.4	601.4	601.4	601.4	601.4	601.4	601.4	601.4	601.4	601.4	601.4
2.5°	750.2	714.2	683.1	681.8	710.6	721.7	717.3	707.5	696.0	671.5	724.8
5°	939.8	888.3	878.5	867.0	840.8	847.9	805.2	837.7	847.9	871.4	906.9
7.5°	1051.7	1021.5	998.0	988.2	942.9	937.6	906.0	952.2	971.8	968.7	1021.5
10°	1095.7	1068.2	1069.9	1038.0	1023.3	1029.5	1033.1	1034.0	1046.0	1055.7	1029.1
12.5°	1118.3	1129.0	1168.1	1146.3	1165.0	1172.5	1209.8	1171.6	1173.0	1122.8	1150.3
15°	1232.5	1259.1	1236.5	1235.6	1229.8	1242.3	1274.2	1248.5	1268.5	1252.5	1216.9
17.5°	1370.2	1378.2	1334.6	1316.9	1340.0	1336.0	1328.0	1332.0	1282.2	1374.6	1331.1
20°	1412.4	1443.9	1386.6	1316.9	1393.3	1403.5	1401.7	1384.4	1299.1	1432.4	1390.2
22.5°	1535.0	1492.3	1447.0	1402.6	1441.7	1447.5	1437.7	1396.4	1368.0	1418.6	1451.9
25°	1590.5	1580.3	1522.5	1517.2	1474.1	1453.7	1470.6	1458.6	1430.6	1520.7	1483.9
27.5°	1717.5	1705.5	1572.7	1627.3	1564.7	1559.4	1470.1	1510.1	1538.1	1531.4	1586.5
30°	1861.4	1875.2	1681.1	1735.7	1663.3	1653.5	1563.8	1614.5	1633.6	1639.8	1708.6
32.5°	2021.3	2059.0	1866.3	1821.4	1782.8	1789.4	1713.5	1621.1	1695.3	1840.5	1870.3
35°	2194.5	2210.0	2008.0	1940.5	1839.6	1832.5	1833.9	1845.4	1920.5	2086.1	2109.2
37.5°	2514.7	2442.8	2265.6	2094.6	2060.8	1994.6	2039.5	2075.0	2150.1	2404.1	2501.0
40°	2711.9	2658.6	2388.6	2289.5	2196.3	2202.5	2286.4	2286.0	2463.2	2725.3	2873.1
42.5°	2894.5	2836.3	2581.8	2482.3	2393.9	2415.7	2439.7	2481.9	2821.6	3244.0	3311.5
45°	3041.5	2914.0	2731.0	2708.8	2636.0	2607.1	2708.8	2776.3	3250.2	3663.7	3702.8
47.5°	3141.4	3036.6	2857.6	2838.1	2784.3	2854.9	3132.5	3176.1	3582.4	4085.2	4082.1
50°	3293.3	3149.8	2988.2	2978.0	3129.4	3167.2	3505.6	3501.2	3905.8	4435.2	4361.9
52.5°	3468.3	3287.5	3112.1	3221.8	3452.8	3471.4	3765.0	3884.5	4258.9	4772.7	4581.3
55°	3669.5	3467.4	3297.7	3444.3	3788.1	3733.0	4030.1	4321.9	4700.8	5128.5	4739.9
57.5°	3918.7	3673.5	3536.3	3759.2	4094.1	4142.9	4409.9	4777.2	5056.5	5349.7	4855.4
60°	4181.6	3893.8	3768.1	3980.4	4522.7	4578.7	4839.8	5155.6	5455.4	5558.0	4833.6
62.5°	4432.5	4121.2	4007.5	4269.5	4997.9	5136.5	5329.3	5530.4	5787.2	5608.6	4570.2
65°	4711.9	4400.1	4328.6	4721.7	5642.4	5780.1	6031.9	5971.5	5900.9	5429.2	4134.5
67.5°	5007.7	4691.0	4704.3	5246.2	6402.3	6425.8	6812.7	6411.2	5767.2	4954.0	3403.0
70°	5166.7	4842.5	4979.7	5805.4	7175.5	7141.8	7220.8	6529.3	5222.2	3916.0	2345.5
72.5°	4973.9	4684.8	4936.2	6040.8	7569.1	7532.6	6991.7	5828.0	4083.0	2435.2	1216.1
75°	4211.3	3932.4	4317.1	5384.8	6814.0	6847.8	5950.2	4333.9	2337.5	979.3	505.0
77.5°	2861.6	2717.7	3047.3	4013.7	5061.4	5178.2	4414.8	2534.3	981.6	405.5	305.6
80°	1512.3	1443.9	1687.3	2312.2	3204.9	3292.0	2596.0	1262.2	502.8	262.5	218.1
82.5°	821.7	792.8	923.4	1189.0	1821.0	1896.9	1346.2	838.5	338.9	164.3	133.2
85°	552.1	541.0	627.6	638.7	861.2	886.1	705.3	645.8	203.4	80.4	87.9
87.5°	276.3	265.2	330.4	291.8	328.7	329.1	323.3	412.2	51.5	26.6	16.0
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°	601.4	601.4	601.4	601.4	601.4	601.4	601.4	601.4	601.4	601.4	601.4
2.5°	725.7	710.2	656.4	656.0	664.0	658.7	662.7	640.9	631.6	674.2	672.0
5°	902.1	855.4	810.6	795.0	776.8	737.3	739.5	739.9	733.3	758.6	760.4
7.5°	1005.5	949.6	908.3	825.7	760.8	710.2	716.8	724.4	716.8	750.6	763.0
10°	1020.6	976.2	926.9	835.0	791.9	746.2	700.0	659.1	654.2	638.7	643.6
12.5°	1110.4	1073.5	970.4	869.6	819.4	749.3	664.9	618.2	579.2	585.8	573.4
15°	1184.1	1157.9	1034.4	902.5	782.6	695.5	605.8	541.9	506.8	502.8	490.3
17.5°	1284.0	1246.7	1040.2	879.8	735.1	630.7	529.4	457.0	441.9	435.7	429.5
20°	1332.0	1264.9	1019.3	808.8	679.5	553.4	453.9	391.7	387.3	398.4	396.2
22.5°	1373.7	1280.0	1000.7	765.7	592.9	475.2	402.4	361.5	356.6	370.9	373.5
25°	1398.2	1323.1	980.2	721.7	539.2	417.0	363.8	340.7	341.5	360.2	358.0
27.5°	1508.3	1338.2	928.7	669.8	477.5	374.0	345.1	333.1	328.2	354.0	356.2
30°	1577.6	1436.8	917.2	614.7	431.7	342.4	328.2	323.3	322.4	353.5	355.8
32.5°	1706.4	1469.7	922.5	554.7	390.4	332.7	315.8	315.3	324.2	354.0	357.5
35°	1884.9	1608.2	896.7	520.5	367.7	317.6	306.0	309.6	324.7	357.1	362.0
37.5°	2233.1	1738.8	904.7	488.6	360.2	312.7	303.3	305.6	330.0	365.1	378.4
40°	2509.0	1975.5	892.3	472.6	350.0	311.8	297.6	306.5	329.6	369.5	381.5
42.5°	2908.7	2164.3	893.6	456.6	349.5	308.2	296.7	307.3	328.7	365.5	382.0
45°	3251.6	2333.5	912.7	447.3	345.1	314.0	295.4	308.7	322.9	351.3	369.5
47.5°	3532.7	2522.3	932.3	438.4	343.3	319.3	294.0	299.4	313.1	335.3	351.8
50°	3761.9	2655.1	957.1	436.6	343.3	316.7	290.5	290.0	301.6	319.3	334.9
52.5°	3940.4	2748.8	974.0	438.8	343.3	306.5	286.0	282.5	289.6	302.5	318.0
55°	4069.7	2777.7	960.2	444.6	342.9	297.1	278.0	274.9	278.5	287.4	302.0
57.5°	4121.6	2701.7	878.1	434.4	342.9	290.5	268.3	264.7	268.3	274.9	289.6
60°	3991.5	2457.4	759.5	408.2	336.2	281.6	257.2	254.9	260.3	266.0	280.3
62.5°	3665.1	2132.8	632.9	377.1	322.4	274.0	246.5	246.9	255.4	263.4	277.6
65°	3157.8	1740.1	527.6	345.5	305.1	262.0	235.4	238.5	250.5	261.2	275.4
67.5°	2485.0	1289.3	444.1	314.9	280.7	242.5	223.0	223.8	232.3	242.5	256.3
70°	1661.1	820.3	365.1	278.9	248.7	217.2	203.9	200.8	198.5	207.4	219.4
72.5°	842.5	484.6	299.8	238.5	214.1	189.6	179.4	171.4	165.2	170.6	179.9
75°	441.5	338.9	242.1	198.1	176.8	161.2	153.7	143.0	138.6	141.7	148.3
77.5°	312.2	265.2	195.9	156.8	143.9	127.9	129.2	118.1	114.6	116.4	123.5
80°	239.8	210.1	150.6	118.6	111.0	95.5	99.9	93.3	88.8	87.9	93.3
82.5°	163.4	158.1	107.0	83.1	77.7	66.6	72.8	70.2	64.4	60.8	63.5
85°	110.1	104.8	65.3	48.0	45.7	34.6	44.4	42.6	37.8	32.4	32.9
87.5°	19.1	35.1	18.7	12.0	11.1	4.0	10.2	9.8	8.9	4.4	3.6
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)