

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: P367786

Luminaire Tested: **MSA-SA3A-830-U-T4W**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367786
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3A-830-U-T4W
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9451 lumens
Efficiency: N/A
Efficacy: 98.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G2

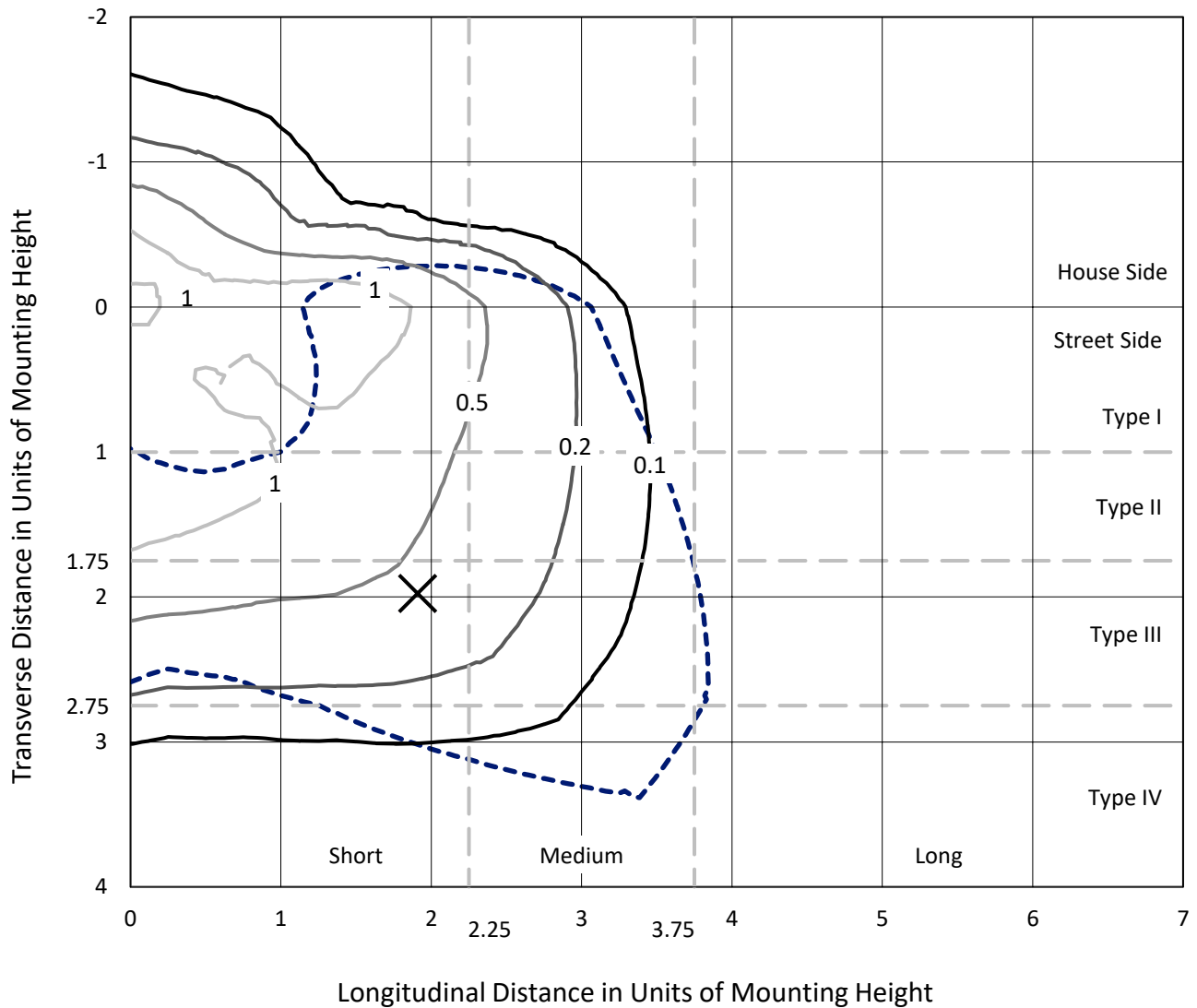
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

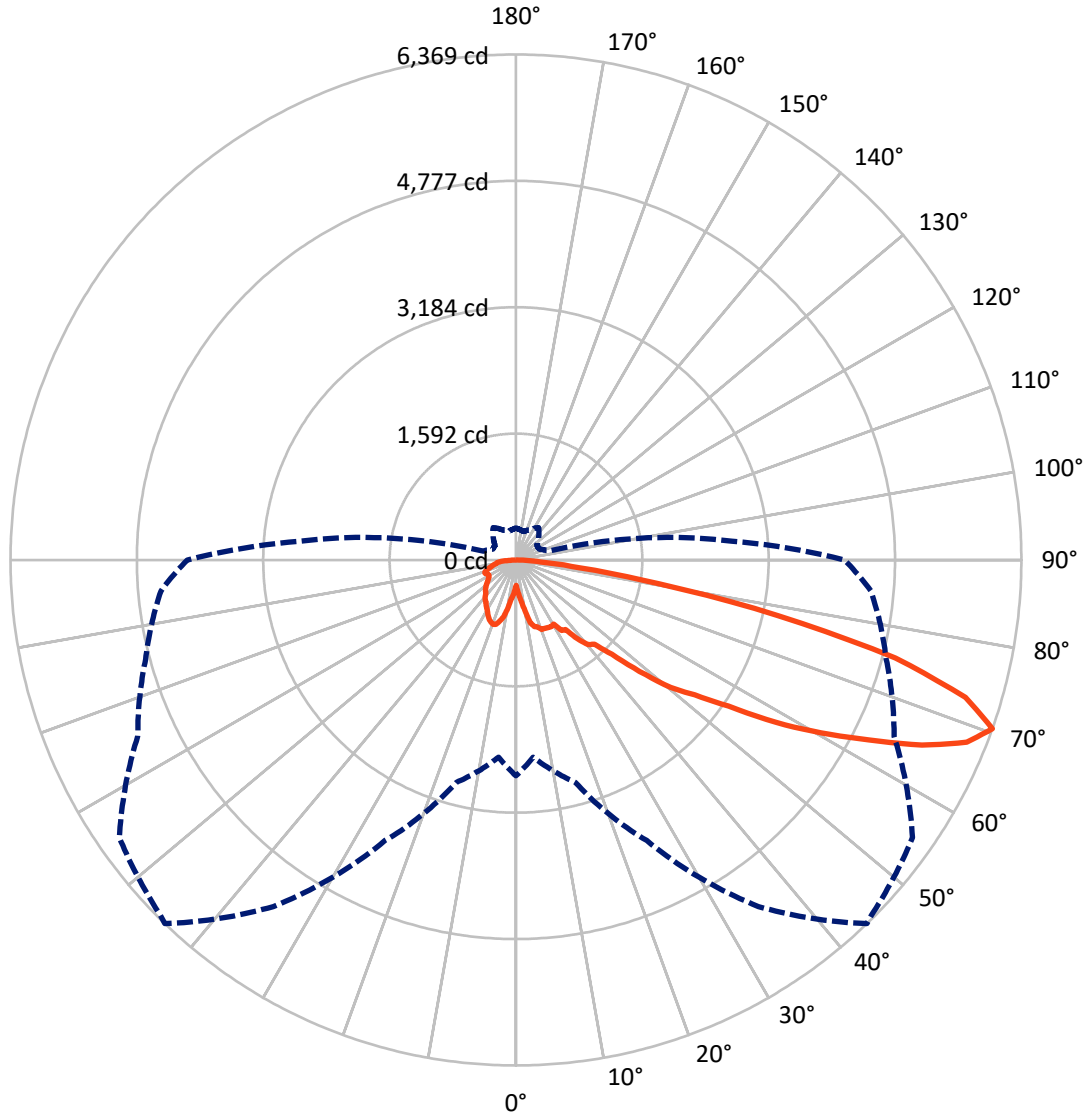
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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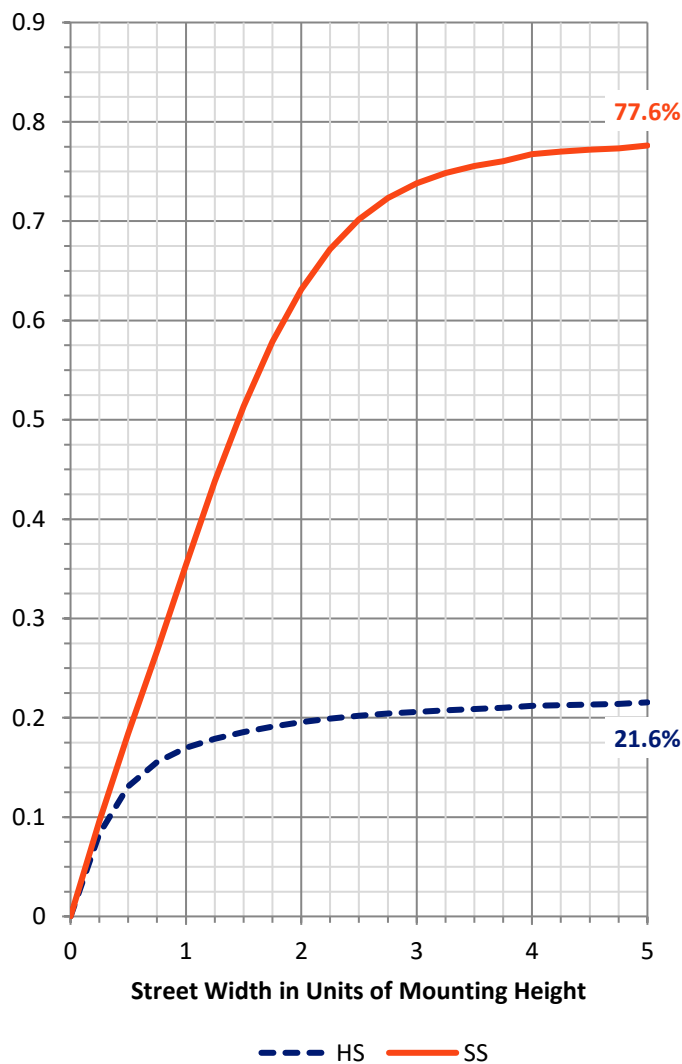
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2085.3	0.0	2085.3
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	7365.7	0.0	7365.7
	% Fixture	77.9	0.0	77.9
Total	Lumens	9451.0	0.0	9451.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.4	0.5
10°-20°	232.0	2.5
20°-30°	433.4	4.6
30°-40°	695.7	7.4
40°-50°	1174.3	12.4
50°-60°	2092.7	22.1
60°-70°	2862.5	30.3
70°-80°	1683.3	17.8
80°-90°	226.7	2.4
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°	9451.0	100.0
0°-180°	9451.0	100.0

Coefficient of Utilization



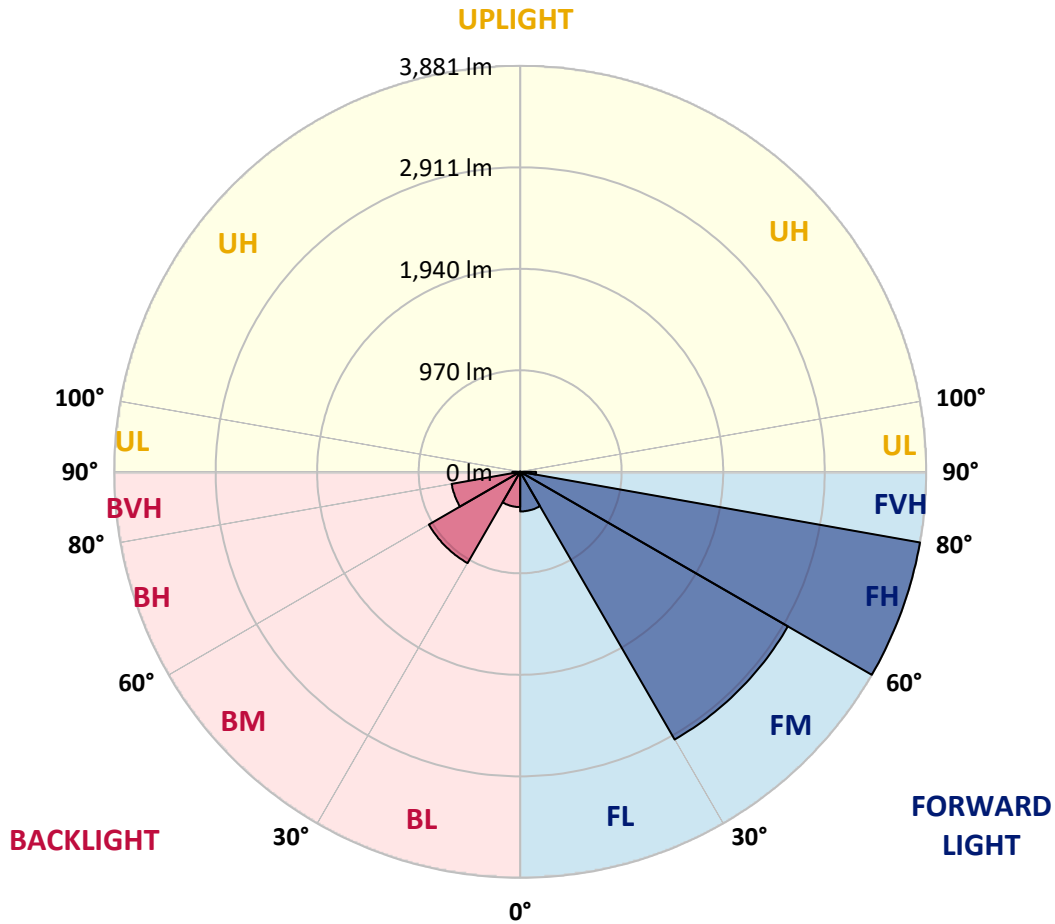
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	378.7	4.0			
FM (30°-60°)	2955.1	31.3			
FH (60°-80°)	3880.9	41.1			G2/5000
FVH (80°-90°)	151.1	1.6			G2/225
BL (0°-30°)	337.0	3.6	B1/500		
BM (30°-60°)	1007.7	10.7	B2/2500		
BH (60°-80°)	664.9	7.0	B2/1000		G2/1000
BVH (80°-90°)	75.6	0.8			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	321.3	321.3	321.3	321.3	321.3	321.3	321.3	321.3	321.3	321.3	321.3
2.5°	389.8	382.1	363.5	369.7	377.4	380.5	379.8	379.0	367.0	362.7	384.0
5°	529.7	512.7	499.1	493.7	475.9	461.9	453.4	475.9	472.4	478.2	492.9
7.5°	661.5	650.6	620.0	609.2	572.8	548.7	546.0	563.8	568.5	559.2	584.4
10°	746.4	727.8	721.6	695.6	670.4	666.5	664.2	656.1	644.8	644.1	621.6
12.5°	812.2	821.9	827.0	797.1	797.9	811.8	804.5	771.5	752.6	719.2	721.9
15°	930.4	944.4	904.5	885.5	849.1	870.0	867.3	839.8	837.0	815.3	790.1
17.5°	1033.5	1039.7	973.1	929.7	917.3	887.0	895.2	895.9	860.3	899.0	876.6
20°	1042.0	1064.1	987.4	901.0	938.2	934.3	935.5	927.7	880.8	944.8	936.2
22.5°	1083.9	1050.2	981.2	918.0	927.7	933.5	939.0	929.7	926.9	962.6	988.6
25°	1076.1	1065.3	995.5	942.1	943.2	944.4	947.1	975.0	971.9	1020.3	1033.9
27.5°	1148.6	1131.9	999.8	986.6	956.4	949.8	931.2	989.3	1034.7	1033.5	1108.3
30°	1286.6	1269.5	1099.0	1060.6	1006.0	938.6	974.2	1051.7	1087.4	1099.4	1194.3
32.5°	1502.0	1529.9	1294.3	1139.7	1071.9	1057.1	1053.3	1045.5	1133.9	1193.2	1279.6
35°	1811.3	1789.2	1524.5	1309.0	1141.2	1078.1	1086.6	1133.9	1238.9	1277.3	1357.1
37.5°	2165.4	2119.7	1819.4	1500.9	1341.2	1262.1	1233.9	1279.6	1302.8	1333.1	1496.2
40°	2525.5	2413.8	2108.9	1753.1	1461.3	1401.7	1376.8	1320.7	1375.3	1436.5	1643.8
42.5°	2873.1	2786.6	2423.9	2054.2	1663.6	1450.9	1437.3	1382.3	1551.6	1616.3	1857.0
45°	3237.3	3037.0	2746.7	2394.1	1959.3	1692.3	1672.1	1573.3	1790.3	1925.2	2157.7
47.5°	3482.2	3296.6	3042.4	2670.0	2206.9	2096.1	2057.7	1888.8	2085.6	2260.8	2622.3
50°	3714.0	3522.9	3255.9	2971.9	2655.3	2527.8	2446.0	2164.7	2453.4	2738.6	3217.9
52.5°	4045.7	3874.8	3503.9	3276.1	3137.0	2823.5	2762.6	2608.0	2883.5	3268.3	3869.0
55°	4400.3	4167.4	3831.4	3705.1	3648.9	3247.4	3197.8	3099.4	3456.3	3810.5	4501.8
57.5°	4556.8	4313.8	4128.6	4053.0	4048.4	3863.5	3806.6	3738.0	4041.8	4275.5	5097.4
60°	4681.2	4420.4	4346.4	4388.6	4542.1	4420.4	4346.4	4285.9	4518.5	4735.1	5583.4
62.5°	4658.3	4396.8	4434.7	4563.4	4955.2	4990.8	4933.9	4787.4	4990.8	5111.7	5862.0
65°	4289.4	4047.6	4268.9	4574.3	5339.2	5624.0	5620.9	5237.7	5308.2	5308.2	5832.5
67.5°	3643.1	3392.7	3755.0	4478.5	5604.7	6125.9	6126.7	5715.1	5337.3	5288.5	5376.8
70°	2720.4	2493.7	2901.0	3900.4	5330.7	6368.8	6333.6	6100.3	5257.4	4830.8	4491.3
72.5°	1624.9	1478.4	1853.1	2839.3	4547.1	5922.0	6015.8	5656.6	4813.0	4017.4	3210.6
75°	737.8	674.3	870.8	1631.1	3246.2	4939.7	5041.6	4773.8	3822.9	2889.3	1855.4
77.5°	315.8	298.8	380.2	723.5	1789.9	3378.0	3586.9	3411.7	2590.2	1679.1	820.8
80°	203.1	192.2	233.7	348.0	831.2	1825.2	2005.0	1939.5	1319.5	653.0	289.1
82.5°	121.3	117.8	156.2	218.6	453.4	803.3	905.2	929.3	547.9	293.0	165.5
85°	66.3	67.0	85.6	132.5	272.0	312.7	334.8	364.3	258.1	169.7	80.2
87.5°	22.1	25.6	34.5	53.9	96.9	88.4	88.7	103.1	108.9	70.5	25.6
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°	321.3	321.3	321.3	321.3	321.3	321.3	321.3	321.3	321.3	321.3	321.3
2.5°	387.5	380.5	362.7	363.9	370.5	372.0	374.0	362.7	360.4	381.7	383.6
5°	495.2	472.4	461.9	458.4	448.4	444.9	463.5	472.0	480.5	497.2	505.3
7.5°	581.7	556.1	537.1	519.7	504.9	496.4	527.8	551.8	566.6	600.7	616.2
10°	621.2	599.1	592.1	578.2	589.4	615.0	620.8	621.6	654.1	653.4	659.9
12.5°	699.9	685.5	662.7	667.7	697.1	723.5	716.1	727.4	739.0	766.9	754.1
15°	771.5	767.7	746.4	749.8	755.7	788.6	792.9	804.1	821.9	844.0	828.9
17.5°	859.9	858.4	806.4	801.8	815.3	847.5	837.4	817.7	876.6	900.2	894.0
20°	920.0	908.3	841.7	821.9	856.4	860.7	849.1	817.7	868.8	920.4	934.3
22.5°	970.0	956.4	887.8	849.1	842.1	844.0	844.0	838.2	863.4	905.6	905.2
25°	1010.3	1023.0	935.9	898.7	861.5	814.9	809.1	814.2	828.5	909.9	907.2
27.5°	1111.4	1076.1	952.1	924.2	847.9	774.6	790.5	798.3	802.9	892.1	906.8
30°	1177.3	1188.1	1010.3	939.3	828.1	729.7	735.1	757.6	784.7	890.1	894.4
32.5°	1266.0	1242.8	1100.9	914.2	775.4	702.6	692.5	722.7	763.0	858.7	870.4
35°	1348.6	1376.1	1139.3	909.5	738.6	661.9	672.7	683.2	725.0	823.9	837.4
37.5°	1542.3	1479.5	1247.0	887.0	708.0	641.3	629.7	645.6	681.3	757.6	789.0
40°	1689.6	1693.5	1270.3	858.7	649.5	611.9	587.1	603.0	618.1	678.9	692.5
42.5°	1965.9	1881.4	1327.2	796.7	612.7	567.7	553.8	560.7	563.1	588.6	611.1
45°	2317.4	2119.3	1349.7	713.4	564.2	549.5	521.2	517.7	504.9	508.4	528.2
47.5°	2803.7	2490.6	1333.4	624.7	521.2	525.9	485.2	469.3	451.5	455.7	474.3
50°	3432.6	2964.9	1332.3	549.5	491.8	494.9	461.5	432.9	415.0	423.9	440.2
52.5°	4138.3	3440.8	1337.7	498.0	459.6	458.0	446.0	411.2	396.8	406.1	424.7
55°	4813.4	3850.0	1378.0	465.4	426.3	429.0	433.6	404.2	388.3	396.8	416.2
57.5°	5400.8	4173.2	1362.9	430.9	395.3	407.7	420.1	394.5	382.5	394.9	414.3
60°	5811.6	4323.1	1243.5	398.0	372.4	389.5	413.5	393.3	391.8	418.5	441.8
62.5°	5961.6	4267.7	1011.0	372.0	358.8	387.1	428.6	418.9	420.5	453.4	485.6
65°	5742.6	3976.3	754.1	355.4	348.4	398.4	463.5	434.0	412.7	439.8	469.3
67.5°	5119.9	3458.2	551.0	341.0	336.4	416.2	495.6	432.5	392.9	420.5	444.5
70°	4142.2	2729.7	426.7	322.8	320.5	404.2	498.7	420.8	371.6	389.5	403.0
72.5°	2838.2	1869.0	353.4	305.4	293.0	358.1	473.5	394.9	346.1	356.5	367.8
75°	1586.1	1049.0	297.2	283.7	256.5	318.9	444.1	379.4	327.1	330.2	345.7
77.5°	711.9	453.8	252.3	255.0	223.6	282.1	405.7	354.6	298.0	291.0	306.5
80°	269.3	221.3	204.6	215.5	187.9	244.5	365.8	332.1	267.4	258.5	267.4
82.5°	156.2	134.1	151.9	165.9	149.2	224.8	349.2	311.6	235.6	213.1	220.9
85°	72.5	69.4	91.1	107.7	104.2	175.2	298.8	234.4	167.8	141.8	156.9
87.5°	19.0	21.3	32.2	38.0	38.8	60.1	115.1	87.2	65.5	49.6	47.7
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)