

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: P366844

Luminaire Tested: **MSA-SA1B-830-U-RW**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366844
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1B-830-U-RW
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4133 lumens
Efficiency: N/A
Efficacy: 93.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G2

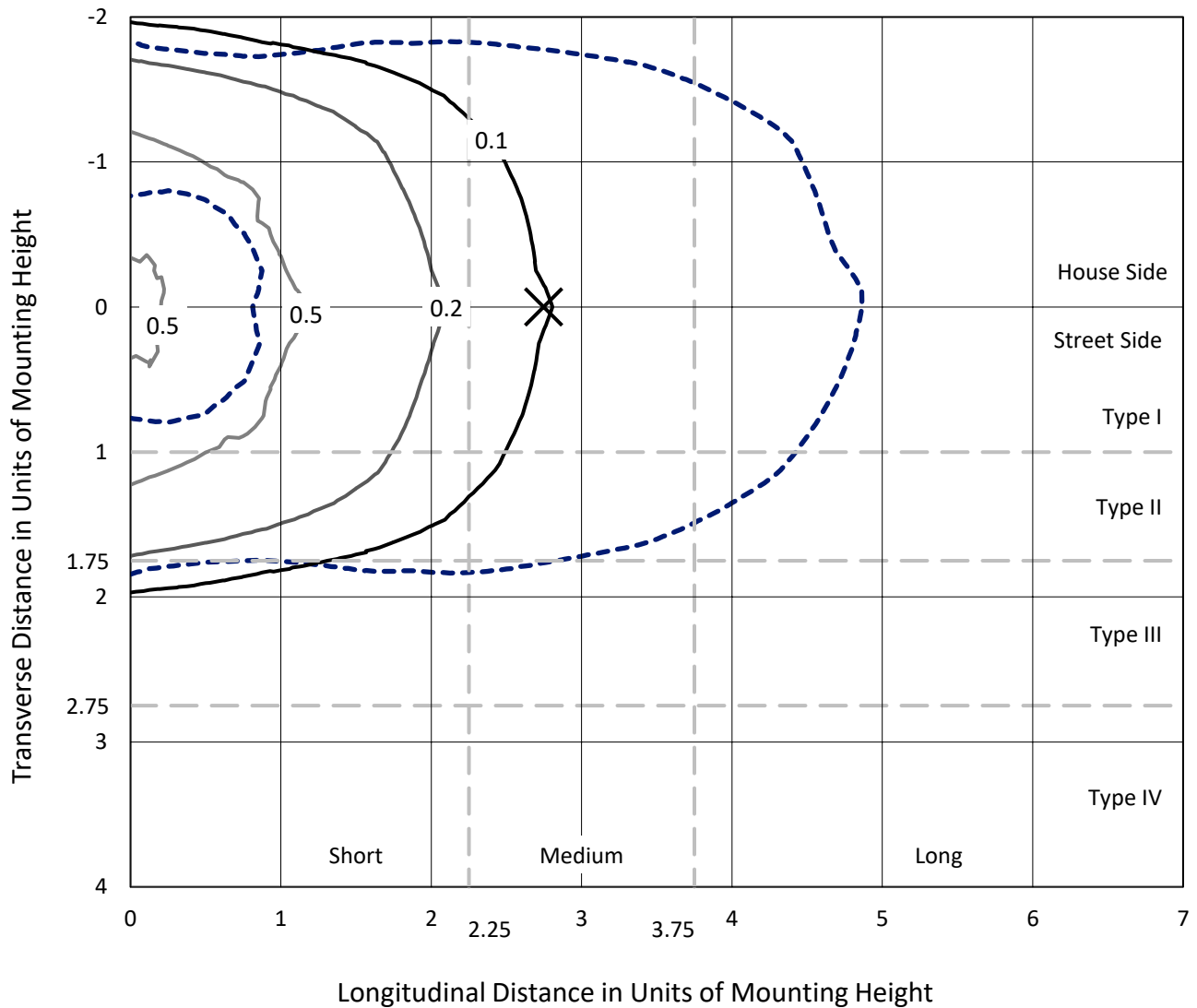
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

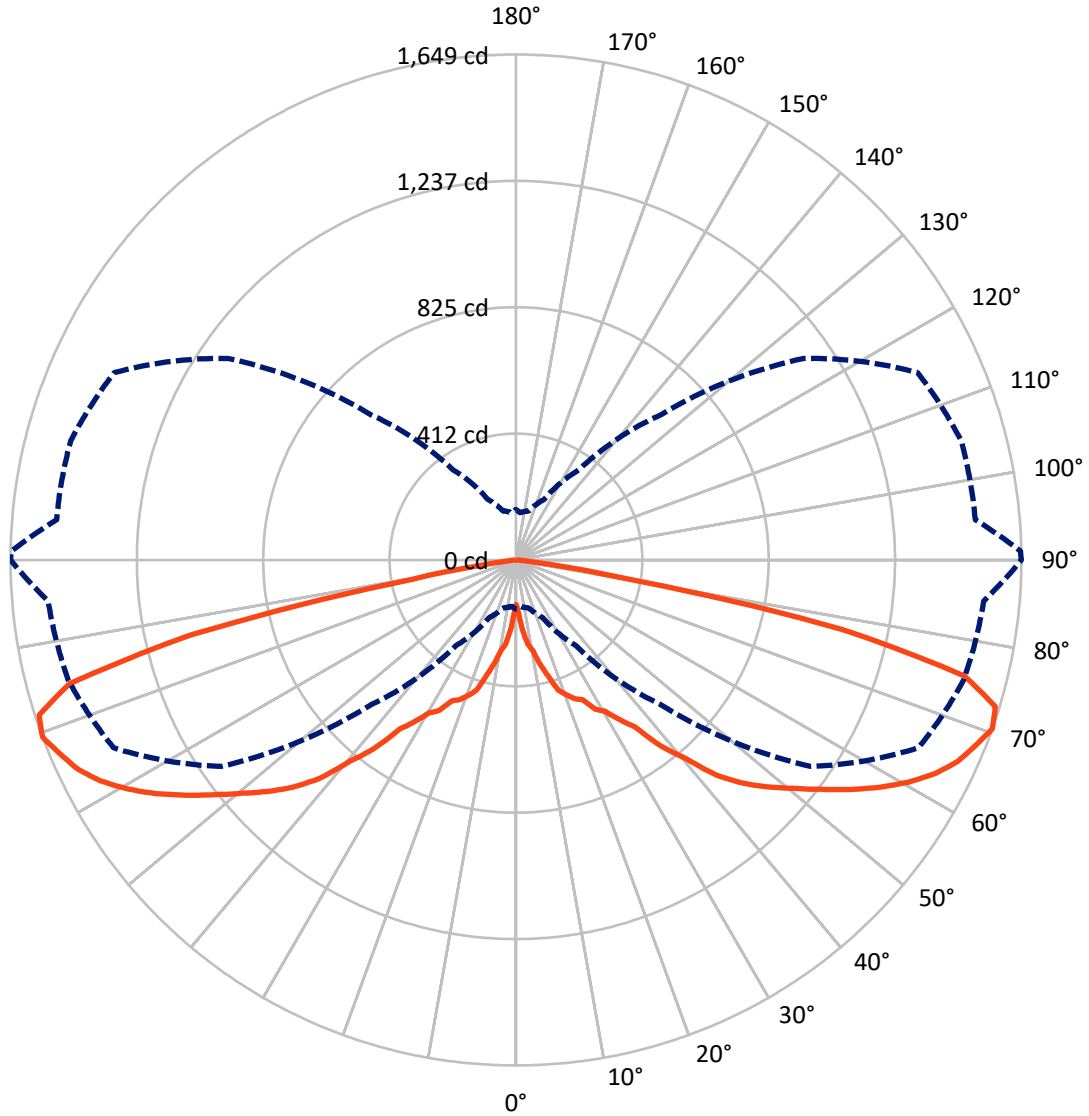
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.7 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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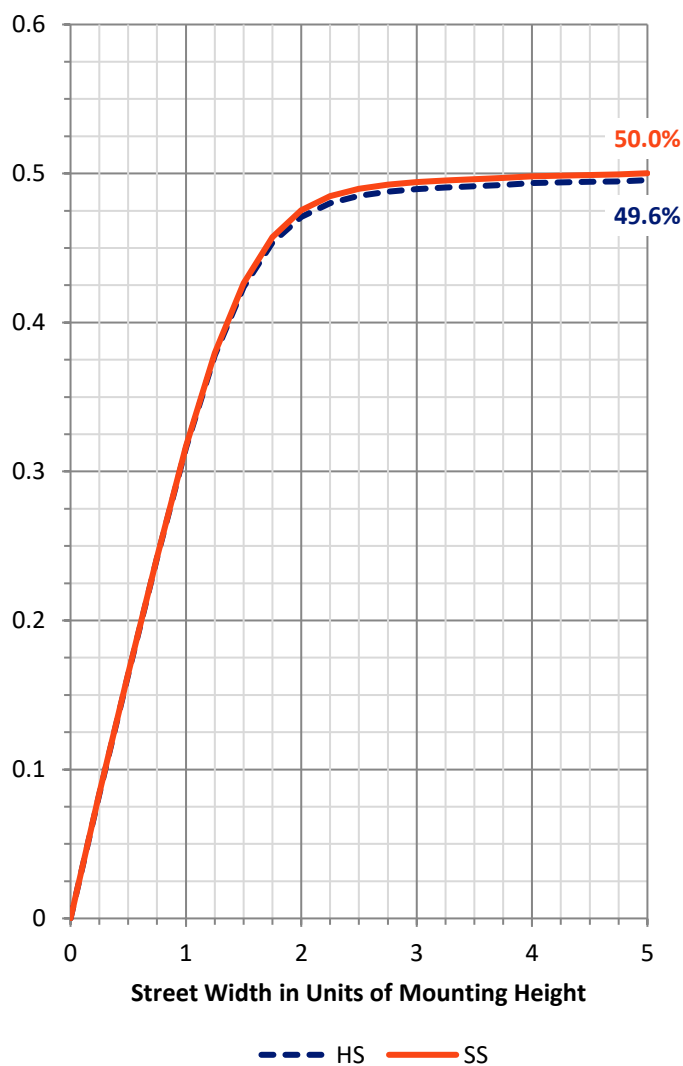
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2058.8	0.0	2058.8
	% Fixture	49.8	0.0	49.8
Street Side	Lumens	2074.2	0.0	2074.2
	% Fixture	50.2	0.0	50.2
Total	Lumens	4133.0	0.0	4133.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	21.9	0.5
10°-20°	100.3	2.4
20°-30°	216.8	5.2
30°-40°	413.7	10.0
40°-50°	751.6	18.2
50°-60°	1055.8	25.5
60°-70°	1008.1	24.4
70°-80°	517.4	12.5
80°-90°	47.4	1.1
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°	4133.0	100.0
0°-180°	4133.0	100.0

Coefficient of Utilization



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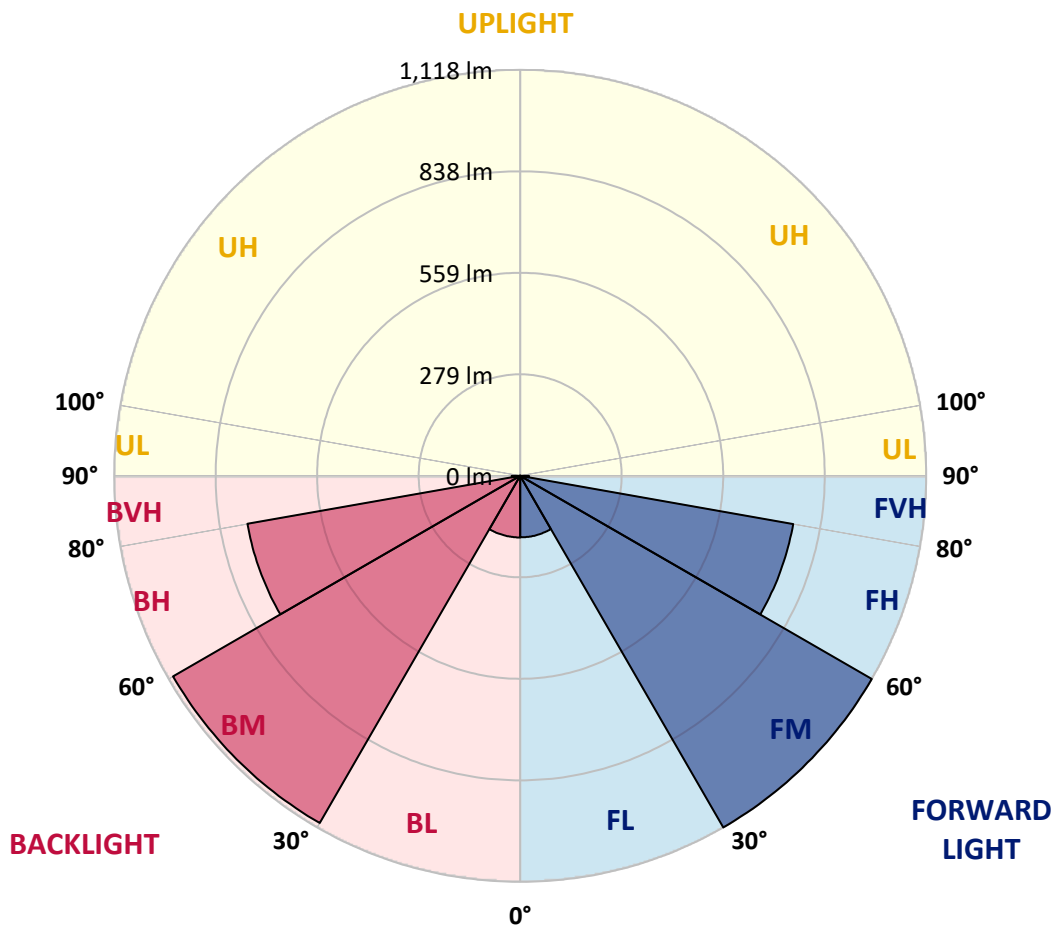
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	169.3	4.1			
FM (30°-60°)	1117.6	27.0			
FH (60°-80°)	763.1	18.5			G1/1800
FVH (80°-90°)	24.1	0.6			G1/100
BL (0°-30°)	169.7	4.1	B1/500		
BM (30°-60°)	1103.5	26.7	B2/2500		
BH (60°-80°)	762.3	18.4	B2/1000		G2/1000
BVH (80°-90°)	23.4	0.6			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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1
2.5°	175.7	169.2	161.0	165.8	167.8	171.4	170.9	169.2	162.0	174.0	175.4
5°	219.9	209.5	205.7	205.0	206.0	202.7	213.6	210.4	216.2	227.1	229.6
7.5°	250.4	242.7	234.5	237.0	226.6	225.1	239.2	251.8	254.9	274.9	276.2
10°	264.8	257.3	259.5	258.0	256.8	266.5	273.0	282.2	295.5	297.3	300.2
12.5°	277.1	280.1	289.6	289.3	305.0	322.3	319.8	329.3	331.5	354.6	347.6
15°	308.0	314.2	313.6	319.4	326.3	354.6	354.8	371.0	385.9	395.0	392.6
17.5°	353.4	355.6	346.6	346.9	366.8	378.4	391.3	388.4	427.3	445.1	446.2
20°	380.6	386.1	375.7	362.0	397.3	413.2	420.4	403.9	445.4	469.3	469.3
22.5°	428.0	413.7	398.0	388.8	419.9	436.9	436.0	431.3	453.4	495.8	491.8
25°	454.1	446.1	438.2	440.5	456.3	465.0	476.6	465.7	486.4	517.9	504.7
27.5°	503.7	488.8	450.1	480.9	480.9	474.4	498.8	504.0	490.5	541.7	551.6
30°	559.8	554.6	499.8	532.5	522.4	504.0	550.9	547.6	524.8	577.1	572.5
32.5°	612.9	630.0	578.1	560.1	575.2	582.2	557.6	567.7	572.0	622.4	620.3
35°	694.3	708.7	639.9	635.3	610.2	603.7	622.4	625.8	626.1	679.2	669.5
37.5°	835.2	814.4	746.4	714.4	717.3	709.4	713.1	686.6	690.3	767.3	772.2
40°	938.2	914.7	839.0	816.1	759.8	793.5	763.7	761.0	753.6	853.4	850.8
42.5°	1051.9	1019.8	936.0	905.4	845.6	831.8	818.1	849.1	847.1	939.5	960.0
45°	1137.9	1072.9	1029.1	1010.1	974.2	940.5	927.5	941.4	935.0	1003.7	1039.4
47.5°	1192.1	1135.7	1085.4	1045.2	1010.9	1093.5	1027.3	1008.7	995.8	1072.7	1107.0
50°	1235.3	1170.2	1110.9	1097.5	1124.6	1197.7	1093.3	1052.3	1068.0	1124.6	1171.4
52.5°	1247.1	1178.1	1124.8	1116.3	1189.6	1202.9	1185.9	1116.9	1112.7	1186.9	1243.4
55°	1211.2	1145.1	1119.8	1166.5	1247.6	1236.5	1262.3	1218.3	1188.6	1250.6	1321.6
57.5°	1118.9	1053.3	1047.2	1114.6	1216.8	1310.9	1323.6	1288.8	1249.9	1315.6	1399.3
60°	967.3	907.4	922.6	997.0	1151.1	1285.1	1352.8	1320.9	1308.9	1374.2	1471.4
62.5°	731.3	684.6	725.3	829.0	1031.2	1251.8	1393.0	1387.9	1370.5	1436.5	1535.0
65°	466.3	441.7	483.3	588.6	845.1	1191.1	1412.2	1418.9	1435.0	1484.6	1584.3
67.5°	271.0	258.0	283.3	369.5	601.8	978.1	1376.4	1472.5	1480.9	1509.4	1616.6
70°	160.3	151.8	162.1	207.5	340.7	666.3	1174.0	1449.1	1512.4	1532.2	1649.2
72.5°	122.3	114.2	109.7	122.8	177.9	344.2	793.8	1228.3	1487.1	1517.1	1635.5
75°	105.7	98.0	92.6	93.8	105.9	163.5	430.3	878.6	1267.2	1381.4	1510.7
77.5°	90.8	83.9	80.1	79.7	81.2	89.8	179.9	476.4	793.6	993.0	1089.1
80°	72.7	67.3	66.5	66.5	64.3	63.7	89.4	181.2	302.0	358.1	343.4
82.5°	53.1	47.7	53.1	52.4	49.1	46.4	57.0	78.4	93.1	73.5	58.1
85°	35.8	31.0	35.0	35.7	32.5	24.1	34.2	39.2	40.2	25.1	20.8
87.5°	12.6	12.2	19.8	17.3	14.1	8.2	12.6	13.6	14.2	8.9	6.0
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):

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1
2.5°	175.9	173.9	163.8	165.3	169.2	171.0	172.9	165.3	161.6	173.4	172.2
5°	230.3	222.9	214.7	213.6	214.1	206.9	211.1	209.2	210.1	217.6	219.1
7.5°	275.9	267.0	256.1	247.6	232.8	221.1	231.0	236.0	237.5	250.9	255.9
10°	300.5	293.0	289.8	273.7	268.8	267.3	265.0	257.0	265.8	262.6	265.2
12.5°	348.7	347.2	330.7	320.1	321.1	324.0	309.2	301.2	289.6	307.7	301.2
15°	389.8	396.3	379.7	360.5	350.9	355.8	344.6	332.8	322.4	328.0	320.9
17.5°	442.2	442.0	409.7	389.1	388.3	387.9	371.4	345.6	358.0	354.1	354.4
20°	470.0	465.5	425.3	401.5	421.8	414.6	399.7	366.5	380.9	385.6	388.6
22.5°	493.3	490.8	442.0	424.6	437.7	437.9	422.9	405.5	403.7	418.3	410.4
25°	509.5	519.6	473.7	469.5	475.2	469.5	454.9	443.6	436.2	458.0	436.2
27.5°	548.1	533.8	478.6	502.3	505.9	477.2	495.5	482.1	461.6	488.6	497.5
30°	575.5	583.9	512.7	548.6	544.4	517.9	525.5	525.0	500.5	553.1	546.9
32.5°	622.8	612.7	568.5	565.7	575.7	574.5	561.8	568.0	574.0	612.2	621.4
35°	671.2	681.9	604.2	623.5	620.6	602.5	635.8	632.0	649.9	728.3	702.3
37.5°	780.4	729.3	684.3	681.7	700.8	703.7	693.0	709.9	748.6	808.9	836.7
40°	851.9	828.6	752.1	755.1	728.6	774.2	744.1	798.5	828.0	929.7	919.8
42.5°	960.1	903.4	829.8	839.9	834.5	812.6	852.3	880.2	922.4	1000.0	1050.1
45°	1040.7	962.8	928.0	921.8	921.1	959.3	954.3	999.0	1014.1	1072.4	1113.9
47.5°	1101.8	1035.7	984.1	991.1	970.7	1079.7	1021.6	1035.5	1066.0	1120.9	1169.3
50°	1174.4	1100.7	1042.0	1059.5	1109.2	1151.1	1098.5	1074.7	1089.6	1154.4	1208.4
52.5°	1241.5	1164.0	1099.5	1114.1	1195.3	1176.2	1170.5	1110.4	1108.5	1160.6	1221.9
55°	1320.1	1232.7	1175.7	1221.9	1250.8	1227.1	1218.1	1144.9	1099.7	1128.6	1186.4
57.5°	1397.2	1300.7	1244.1	1253.6	1290.1	1266.7	1198.8	1086.1	1029.7	1035.3	1093.8
60°	1469.3	1363.2	1316.4	1307.2	1336.4	1244.4	1125.6	978.4	903.5	889.8	940.4
62.5°	1531.2	1415.4	1371.2	1346.1	1373.9	1245.2	1011.6	805.5	723.3	676.7	716.1
65°	1580.2	1458.8	1427.3	1414.2	1424.3	1169.5	833.8	591.5	490.6	439.0	462.0
67.5°	1612.9	1483.1	1468.7	1485.8	1351.8	974.0	617.8	378.6	285.3	257.1	271.5
70°	1646.7	1504.5	1504.0	1445.9	1146.2	671.5	360.8	218.3	166.0	155.1	164.2
72.5°	1635.3	1479.1	1486.6	1264.5	794.3	359.0	190.5	123.5	112.4	116.2	124.3
75°	1514.4	1344.7	1308.4	909.0	450.6	166.8	109.7	93.5	92.8	98.7	106.5
77.5°	1098.5	936.5	840.4	515.2	193.1	90.3	80.7	78.1	78.1	82.7	89.8
80°	362.1	313.4	326.6	199.3	91.3	62.3	63.0	64.2	63.8	65.0	70.9
82.5°	59.5	61.6	95.3	81.4	55.1	42.5	47.6	49.9	50.6	45.2	51.4
85°	21.1	23.8	40.5	37.7	31.8	21.4	31.3	35.0	34.5	30.2	33.3
87.5°	6.5	8.4	14.7	11.4	9.5	5.9	11.7	13.7	17.3	7.0	6.4
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)