

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: P368553

Luminaire Tested: **MSA-SA4C-760-U-T4FT-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368553
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-SA4C-760-U-T4FT-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 18018 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G4

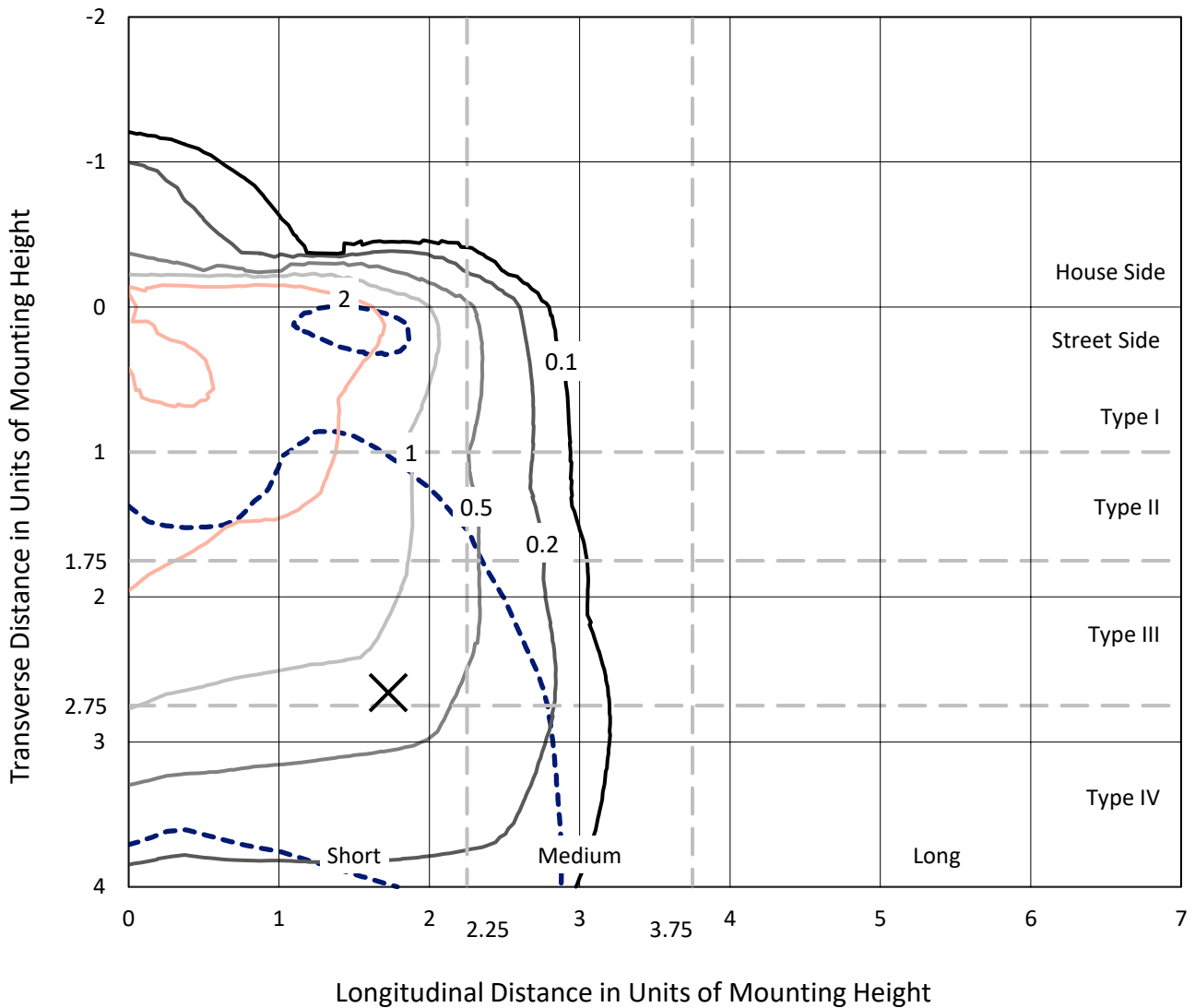
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

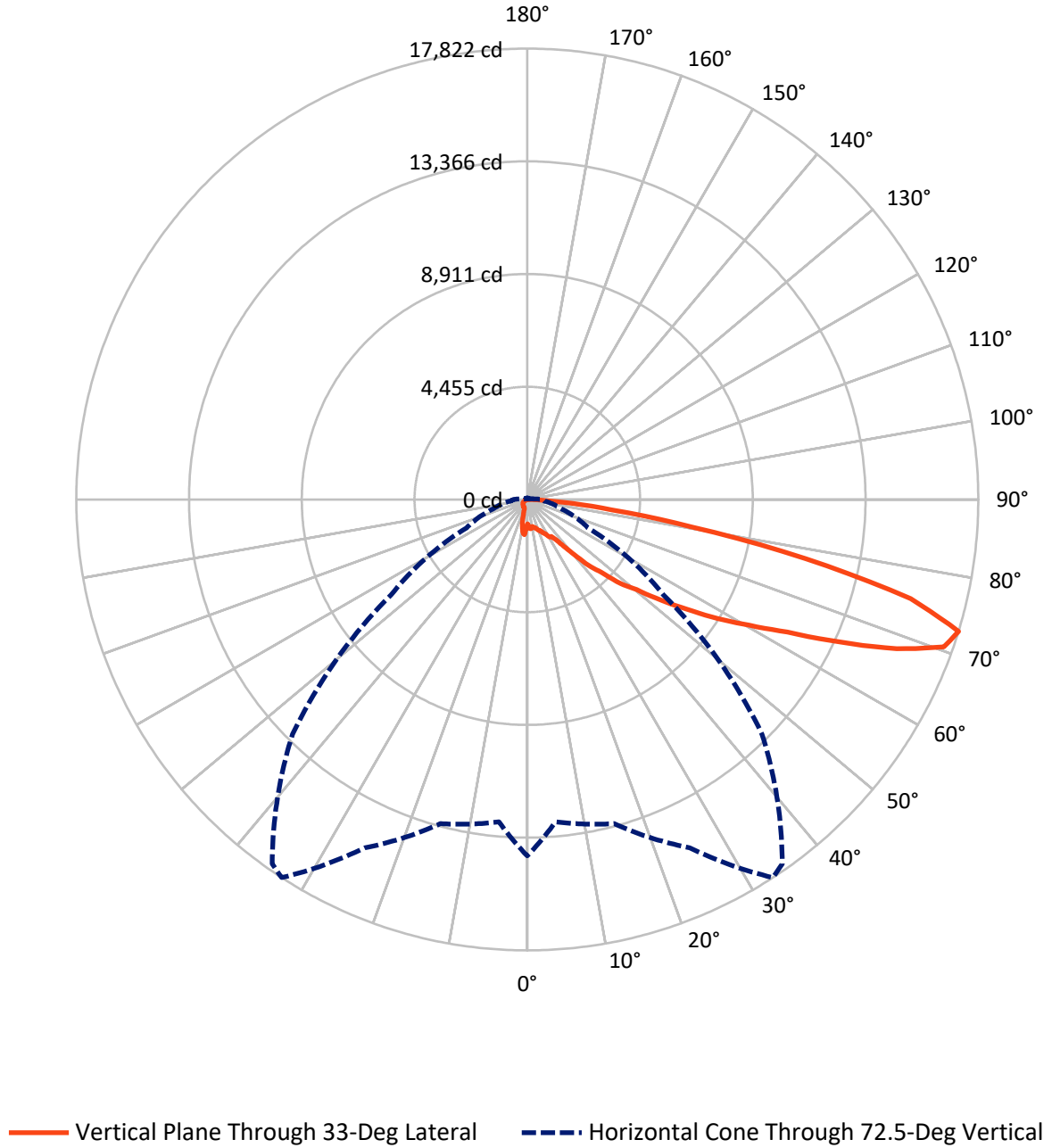
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 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	1666.0	0.0	1666.0
	% Fixture	9.2	0.0	9.2
Street Side	Lumens	16352.0	0.0	16352.0
	% Fixture	90.8	0.0	90.8
Total	Lumens	18018.0	0.0	18018.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.0	0.7
10°-20°	369.6	2.1
20°-30°	626.8	3.5
30°-40°	1147.2	6.4
40°-50°	2421.2	13.4
50°-60°	4050.9	22.5
60°-70°	5422.3	30.1
70°-80°	3541.9	19.7
80°-90°	314.0	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°	18018.0	100.0
0°-180°	18018.0	100.0

Coefficient of Utilization



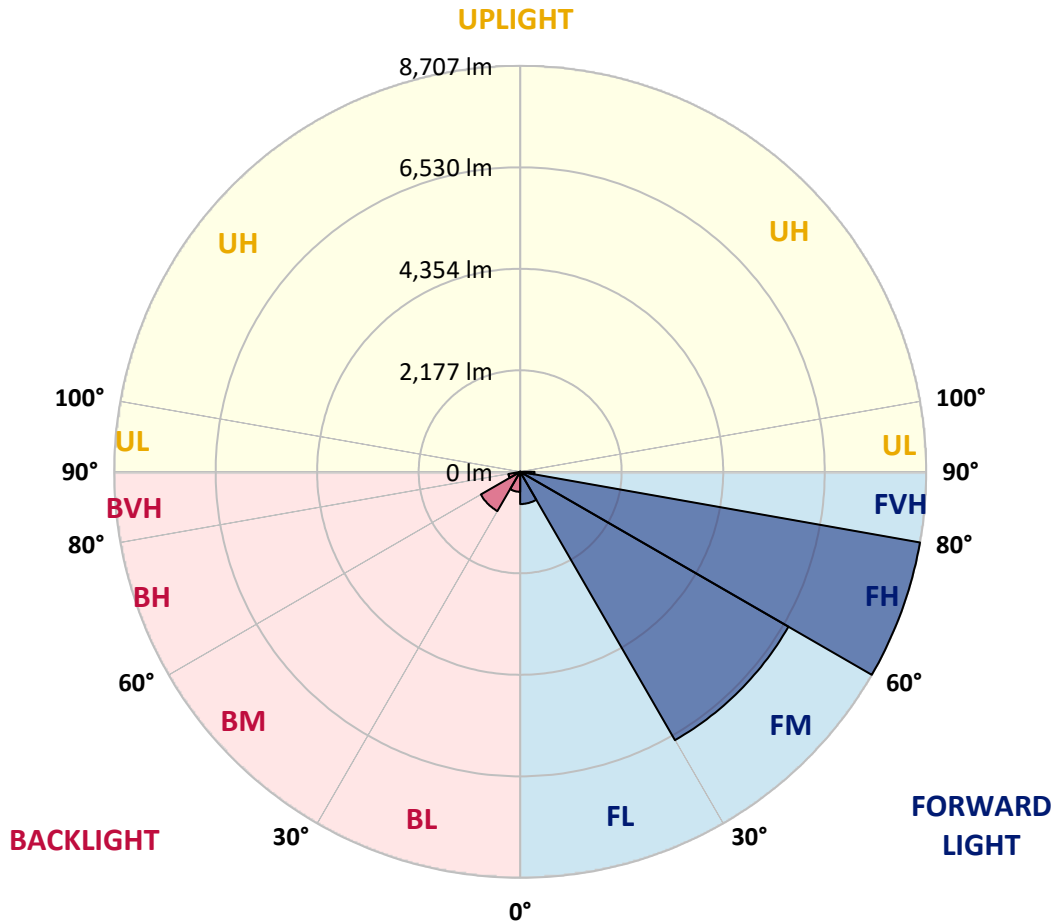
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	691.7	3.8			
FM (30°-60°)	6645.3	36.9			
FH (60°-80°)	8707.1	48.3			G4/12000
FVH (80°-90°)	307.9	1.7			G3/500
BL (0°-30°)	428.8	2.4	B1/500		
BM (30°-60°)	974.0	5.4	B1/1000		
BH (60°-80°)	257.1	1.4	B1/500		G1/500
BVH (80°-90°)	6.1	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-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	958.3	958.3	958.3	958.3	958.3	958.3	958.3	958.3	958.3	958.3	958.3
2.5°	1142.4	1098.4	1034.4	1038.4	1049.4	1058.4	1082.4	1072.4	1053.4	1052.4	1142.4
5°	1210.4	1161.4	1157.4	1163.4	1160.4	1176.4	1156.4	1221.4	1276.5	1342.5	1448.5
7.5°	1177.4	1154.4	1125.4	1155.4	1154.4	1146.4	1159.4	1291.5	1424.5	1508.5	1683.6
10°	1082.4	1056.4	1078.4	1088.4	1081.4	1116.4	1203.4	1311.5	1470.5	1646.6	1731.6
12.5°	1055.4	1071.4	1079.4	1079.4	1146.4	1164.4	1297.5	1399.5	1588.6	1727.6	1974.7
15°	1160.4	1191.4	1136.4	1124.4	1145.4	1155.4	1303.5	1426.5	1668.6	1922.7	2129.8
17.5°	1327.5	1325.5	1240.5	1193.4	1226.4	1250.5	1332.5	1476.5	1618.6	2075.8	2375.9
20°	1442.5	1444.5	1291.5	1193.4	1302.5	1316.5	1407.5	1522.6	1634.6	2152.8	2536.9
22.5°	1590.6	1537.6	1368.5	1273.5	1347.5	1360.5	1460.5	1551.6	1716.6	2143.8	2743.0
25°	1711.6	1677.6	1464.5	1398.5	1464.5	1446.5	1537.6	1674.6	1804.7	2286.8	2864.0
27.5°	1899.7	1841.7	1532.6	1544.6	1540.6	1553.6	1574.6	1784.6	1959.7	2293.8	3144.1
30°	2074.8	2040.7	1684.6	1684.6	1723.6	1698.6	1713.6	1967.7	2109.8	2455.9	3459.3
32.5°	2255.8	2257.8	1863.7	1768.6	1737.6	1840.7	1941.7	2056.7	2290.8	2734.0	3941.4
35°	2735.0	2695.0	2206.8	1969.7	1944.7	1938.7	2100.8	2411.9	2611.9	3096.1	4590.7
37.5°	3700.3	3561.3	2945.1	2425.9	2331.8	2299.8	2483.9	2803.0	3002.1	3628.3	5664.1
40°	4690.7	4435.6	3751.4	3166.2	2861.0	2723.0	2937.1	3208.2	3562.3	4216.5	6657.4
42.5°	5560.0	5244.9	4358.6	3964.4	3567.3	3507.3	3306.2	3747.4	4362.6	5072.8	7630.8
45°	6407.3	5787.1	4898.8	4586.7	4104.5	4138.5	4070.5	4452.6	5193.9	6011.2	8494.1
47.5°	6990.5	6433.3	5561.0	5155.9	4962.8	4763.7	5303.9	5701.1	5934.2	6607.4	9240.4
50°	7618.8	7054.6	6130.2	5847.1	5593.0	5794.1	6495.4	6548.4	6529.4	7163.6	9748.5
52.5°	8430.1	7764.8	6783.5	6463.3	6607.4	6807.5	7616.8	7626.8	7058.6	7631.8	10114.7
55°	9180.3	8443.1	7653.8	7351.7	7652.8	7821.8	8719.2	8390.0	7366.7	7949.9	10294.7
57.5°	10237.7	9384.4	8811.2	8279.0	8889.2	8727.2	9688.5	9199.3	7712.8	8161.0	10228.7
60°	11574.2	10569.8	9995.6	9432.4	10086.7	10196.7	10634.9	9603.5	7846.9	8230.0	9831.6
62.5°	12933.7	11923.3	11168.1	10785.9	11528.2	11890.3	11511.2	9804.6	7685.8	8094.9	8932.2
65°	14620.3	13326.8	12444.5	12220.4	13595.9	14128.1	12547.6	9853.6	7374.7	7351.7	7181.6
67.5°	15775.7	14516.3	13707.0	14082.1	15743.7	15786.7	13477.9	9868.6	6327.3	5756.1	4713.7
70°	16049.8	14701.3	14339.2	15443.6	17457.3	16916.1	13778.0	9108.3	4692.7	3416.2	2154.8
72.5°	14089.1	12790.6	13261.8	15186.5	17821.5	17573.4	13114.8	6571.4	2642.0	1366.5	661.2
75°	8642.1	7856.9	9948.6	12875.7	15643.7	15483.6	10231.7	3395.2	1064.4	546.2	247.1
77.5°	3758.4	3490.3	5191.9	8543.1	11241.1	11098.0	5995.2	1250.5	550.2	384.1	125.0
80°	1243.5	1206.4	1966.7	4045.5	6584.4	6458.3	2525.9	520.2	392.1	308.1	70.0
82.5°	295.1	293.1	686.2	1861.7	3354.2	3249.2	775.3	287.1	284.1	243.1	37.0
85°	74.0	76.0	190.1	761.3	1362.5	1201.4	202.1	143.1	200.1	165.1	19.0
87.5°	0.0	0.0	49.0	109.0	206.1	129.0	22.0	38.0	56.0	59.0	10.0
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°	958.3	958.3	958.3	958.3	958.3	958.3	958.3	958.3	958.3	958.3	958.3
2.5°	1162.4	1151.4	1061.4	1083.4	1117.4	1114.4	1136.4	1119.4	1104.4	1178.4	1171.4
5°	1478.5	1418.5	1390.5	1429.5	1408.5	1359.5	1400.5	1393.5	1381.5	1406.5	1425.5
7.5°	1715.6	1660.6	1635.6	1553.6	1434.5	1340.5	1355.5	1320.5	1287.5	1326.5	1366.5
10°	1793.7	1763.6	1760.6	1600.6	1488.5	1352.5	1191.4	1052.4	1015.4	966.4	988.4
12.5°	2005.7	2023.7	1910.7	1723.6	1507.5	1246.5	960.3	763.3	683.2	631.2	634.2
15°	2179.8	2242.8	2078.8	1742.6	1326.5	950.3	639.2	462.2	412.1	399.1	395.1
17.5°	2438.9	2499.9	2130.8	1607.6	1069.4	644.2	411.1	360.1	363.1	372.1	370.1
20°	2631.0	2622.0	2085.8	1368.5	788.3	422.2	344.1	337.1	353.1	379.1	373.1
22.5°	2816.0	2754.0	2057.7	1147.4	510.2	339.1	332.1	331.1	346.1	371.1	378.1
25°	2948.1	2958.1	2010.7	898.3	371.1	315.1	321.1	330.1	345.1	372.1	368.1
27.5°	3326.2	3046.1	1814.7	652.2	313.1	302.1	317.1	335.1	340.1	374.1	375.1
30°	3571.3	3378.2	1686.6	439.2	289.1	279.1	309.1	333.1	339.1	383.1	386.1
32.5°	3998.5	3521.3	1538.6	326.1	269.1	272.1	291.1	323.1	351.1	398.1	400.1
35°	4529.6	3980.4	1270.5	293.1	262.1	257.1	266.1	303.1	349.1	400.1	410.1
37.5°	5541.0	4255.5	1007.4	284.1	262.1	253.1	262.1	284.1	343.1	420.2	441.2
40°	6218.3	4815.8	726.3	282.1	257.1	249.1	252.1	274.1	326.1	408.1	439.2
42.5°	7052.6	5051.8	535.2	277.1	252.1	240.1	242.1	270.1	309.1	383.1	406.1
45°	7735.8	5223.9	421.2	275.1	240.1	236.1	240.1	267.1	293.1	329.1	350.1
47.5°	8255.0	5424.0	338.1	262.1	237.1	236.1	231.1	250.1	266.1	275.1	289.1
50°	8635.1	5379.0	280.1	242.1	227.1	233.1	224.1	227.1	231.1	226.1	242.1
52.5°	8868.2	5216.9	233.1	218.1	215.1	220.1	209.1	200.1	193.1	189.1	199.1
55°	8953.3	4891.8	198.1	187.1	194.1	196.1	187.1	171.1	159.1	153.1	161.1
57.5°	8792.2	4396.6	172.1	155.1	171.1	171.1	159.1	142.1	128.0	118.0	126.0
60°	8384.0	3849.4	153.1	129.0	146.1	147.1	133.0	115.0	104.0	94.0	99.0
62.5°	7623.8	3253.2	134.0	112.0	126.0	127.0	110.0	93.0	85.0	74.0	78.0
65°	6103.2	2487.9	114.0	99.0	109.0	106.0	91.0	79.0	69.0	59.0	61.0
67.5°	3961.4	1535.6	99.0	90.0	92.0	89.0	77.0	69.0	58.0	50.0	51.0
70°	1773.6	661.2	87.0	81.0	80.0	75.0	65.0	64.0	57.0	50.0	50.0
72.5°	547.2	249.1	75.0	73.0	69.0	63.0	57.0	61.0	56.0	48.0	47.0
75°	216.1	114.0	62.0	62.0	60.0	52.0	51.0	55.0	52.0	44.0	42.0
77.5°	113.0	72.0	51.0	53.0	52.0	40.0	46.0	50.0	48.0	37.0	31.0
80°	67.0	44.0	38.0	43.0	42.0	28.0	35.0	32.0	23.0	11.0	3.0
82.5°	37.0	20.0	17.0	25.0	25.0	10.0	18.0	16.0	9.0	0.0	0.0
85°	18.0	14.0	13.0	14.0	10.0	3.0	9.0	9.0	5.0	0.0	0.0
87.5°	9.0	8.0	6.0	5.0	4.0	0.0	3.0	4.0	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)