

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: P368302

Luminaire Tested: **MSA-SA4A-830-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368302
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-SA4A-830-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 12000 lumens
Efficiency: N/A
Efficacy: 93.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

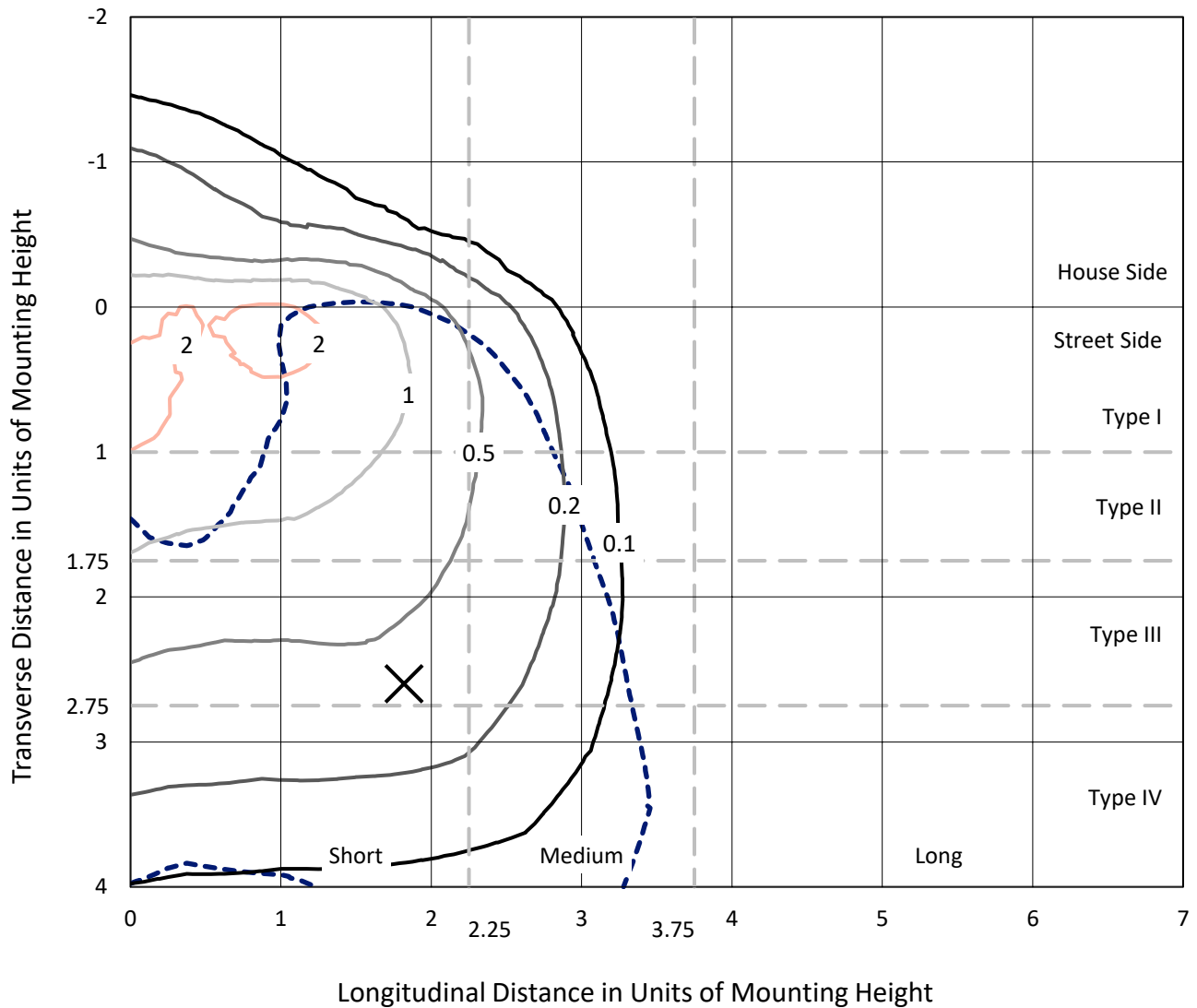
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

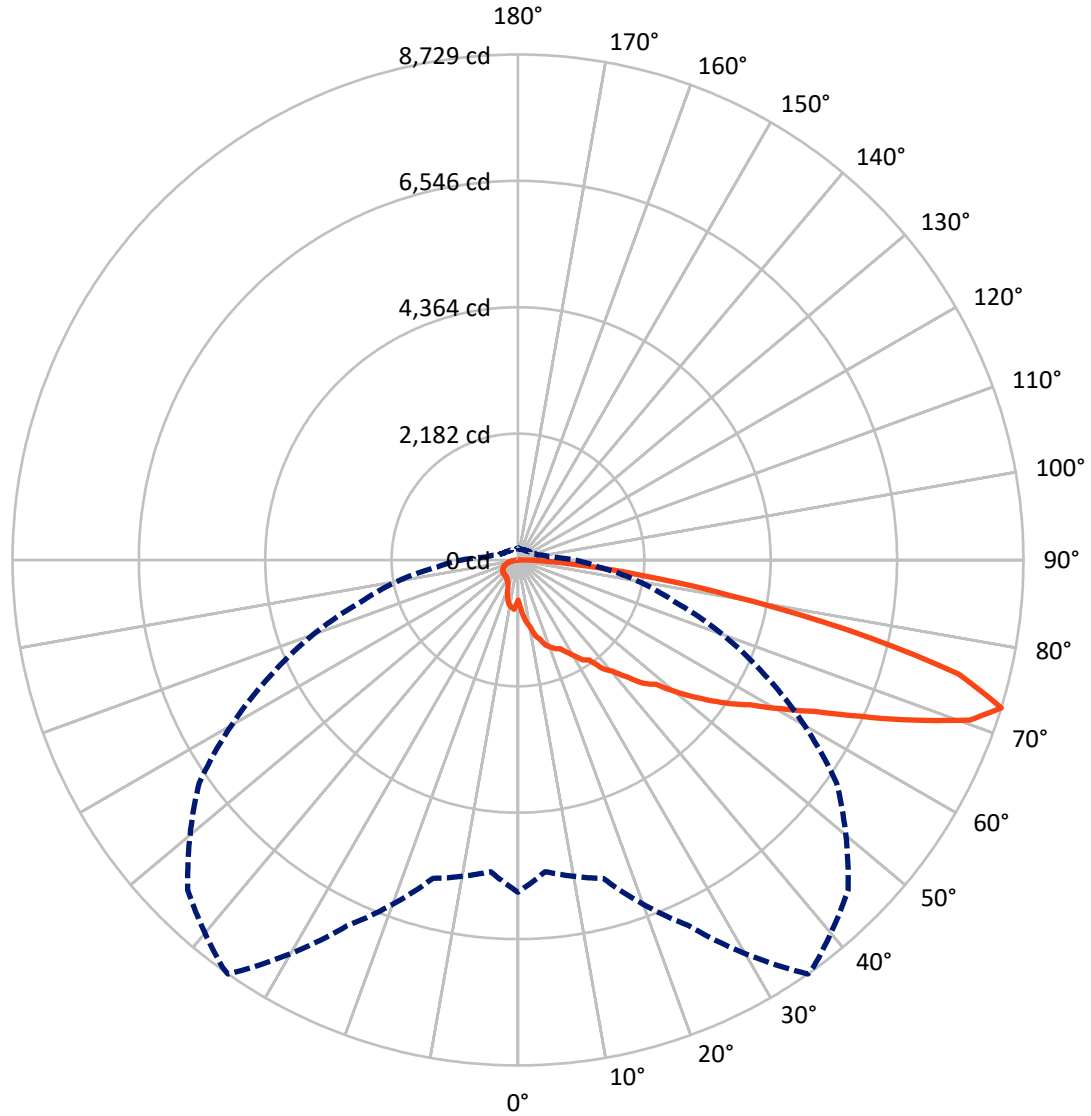
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 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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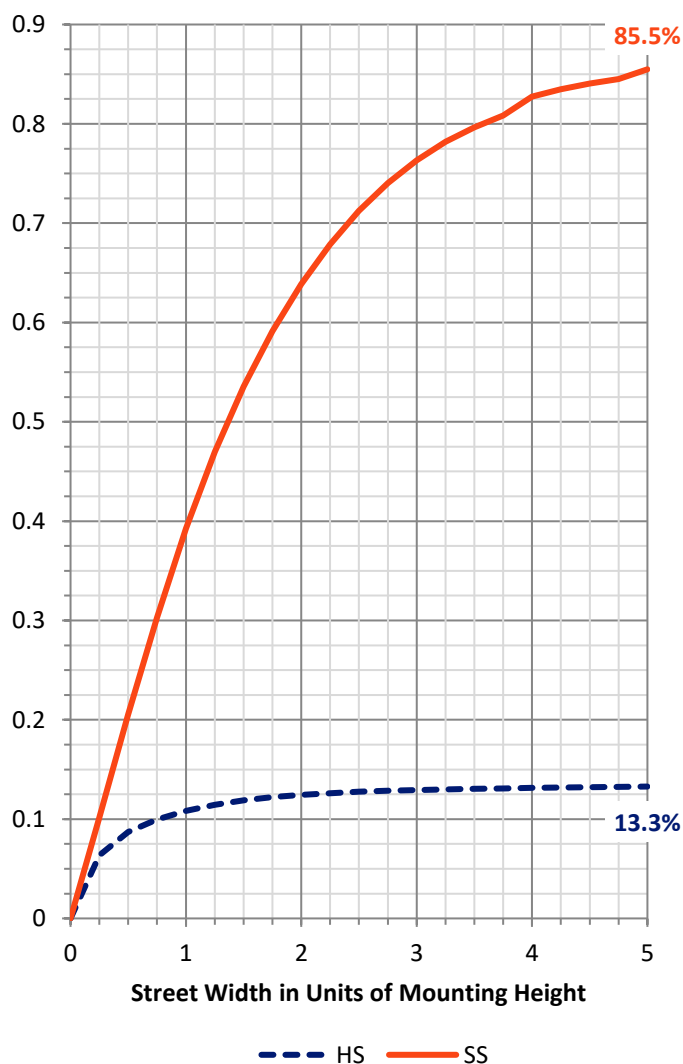
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1610.4	0.0	1610.4
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	10389.6	0.0	10389.6
	% Fixture	86.6	0.0	86.6
Total	Lumens	12000.0	0.0	12000.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.2	0.8
10°-20°	324.7	2.7
20°-30°	564.1	4.7
30°-40°	942.8	7.9
40°-50°	1636.4	13.6
50°-60°	2473.8	20.6
60°-70°	3204.8	26.7
70°-80°	2364.8	19.7
80°-90°	396.3	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°	12000.0	100.0
0°-180°	12000.0	100.0

Coefficient of Utilization



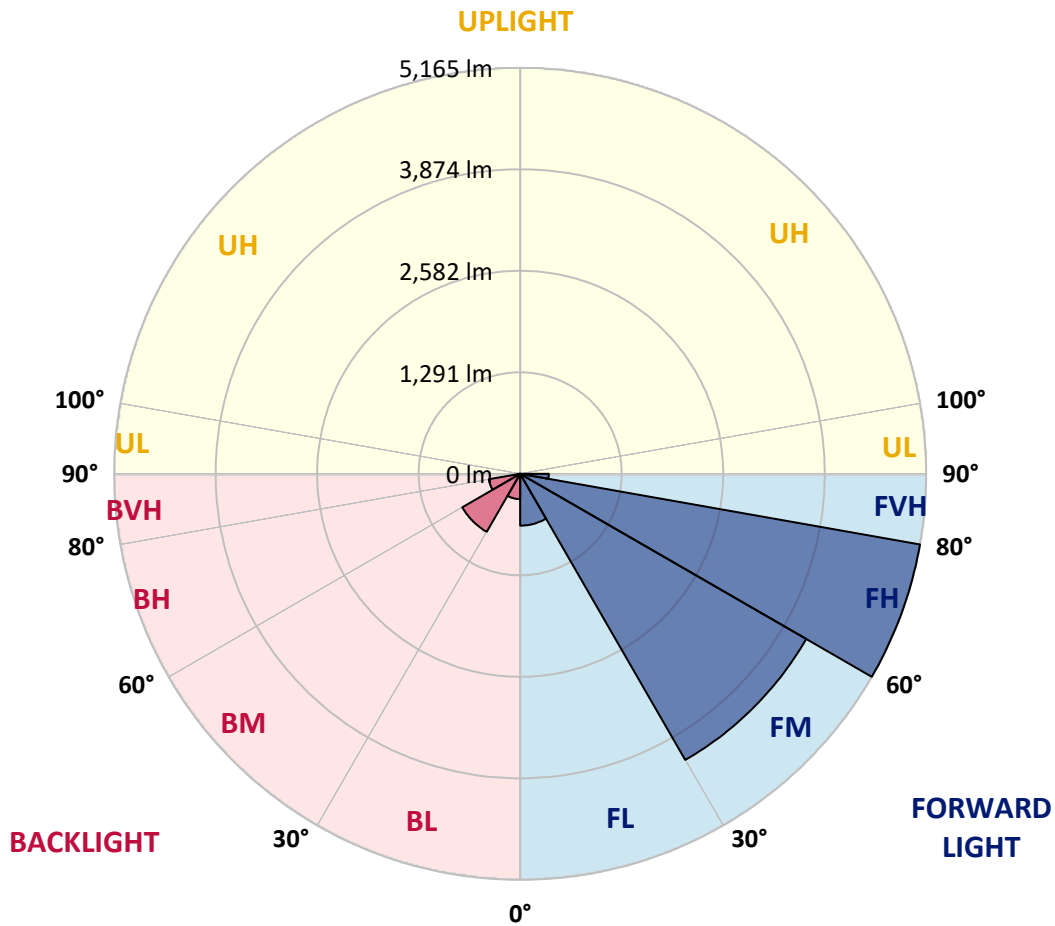
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	659.1	5.5			
FM (30°-60°)	4202.0	35.0			
FH (60°-80°)	5164.7	43.0			G3/7500
FVH (80°-90°)	363.9	3.0			G3/500
BL (0°-30°)	321.9	2.7	B1/500		
BM (30°-60°)	851.1	7.1	B1/1000		
BH (60°-80°)	404.9	3.4	B1/500		G1/500
BVH (80°-90°)	32.4	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°	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5
2.5°	865.1	823.6	787.7	786.2	819.5	832.3	827.2	815.9	802.6	774.4	835.9
5°	1083.8	1024.4	1013.1	999.8	969.5	977.7	928.6	966.0	977.7	1004.9	1045.9
7.5°	1212.8	1178.0	1150.9	1139.6	1087.3	1081.2	1044.8	1098.1	1120.6	1117.1	1178.0
10°	1263.5	1231.8	1233.8	1197.0	1180.1	1187.2	1191.3	1192.3	1206.2	1217.4	1186.7
12.5°	1289.7	1301.9	1347.0	1321.9	1343.4	1352.1	1395.2	1351.1	1352.7	1294.8	1326.5
15°	1421.3	1452.0	1425.9	1424.9	1418.2	1432.6	1469.4	1439.7	1462.8	1444.3	1403.4
17.5°	1580.1	1589.3	1539.1	1518.6	1545.2	1540.6	1531.4	1536.0	1478.6	1585.2	1535.0
20°	1628.7	1665.1	1599.0	1518.6	1606.7	1618.5	1616.4	1596.5	1498.1	1651.8	1603.1
22.5°	1770.1	1720.9	1668.7	1617.4	1662.5	1669.2	1657.9	1610.3	1577.5	1635.9	1674.3
25°	1834.1	1822.3	1755.7	1749.6	1699.9	1676.3	1695.8	1682.0	1649.7	1753.7	1711.2
27.5°	1980.6	1966.8	1813.6	1876.6	1804.4	1798.2	1695.3	1741.4	1773.7	1766.0	1829.5
30°	2146.5	2162.4	1938.6	2001.6	1918.1	1906.8	1803.4	1861.8	1883.8	1891.0	1970.3
32.5°	2330.9	2374.4	2152.2	2100.4	2055.9	2063.6	1976.0	1869.4	1955.0	2122.5	2156.8
35°	2530.7	2548.6	2315.5	2237.7	2121.4	2113.2	2114.8	2128.1	2214.6	2405.7	2432.3
37.5°	2899.9	2817.0	2612.6	2415.4	2376.5	2300.2	2351.9	2392.9	2479.4	2772.4	2884.1
40°	3127.3	3065.9	2754.5	2640.3	2532.7	2539.9	2636.7	2636.2	2840.5	3142.7	3313.3
42.5°	3337.8	3270.8	2977.3	2862.5	2760.6	2785.7	2813.4	2862.0	3253.8	3740.9	3818.8
45°	3507.4	3360.4	3149.4	3123.8	3039.8	3006.5	3123.8	3201.6	3748.1	4224.9	4270.0
47.5°	3622.6	3501.7	3295.3	3272.8	3210.8	3292.3	3612.4	3662.6	4131.2	4711.0	4707.4
50°	3797.8	3632.3	3445.9	3434.1	3608.8	3652.3	4042.6	4037.5	4504.1	5114.6	5030.1
52.5°	3999.6	3791.1	3588.8	3715.3	3981.6	4003.2	4341.7	4479.5	4911.2	5503.8	5283.1
55°	4231.6	3998.6	3802.9	3971.9	4368.3	4304.8	4647.5	4984.0	5420.9	5914.1	5465.9
57.5°	4518.9	4236.2	4077.9	4335.1	4721.2	4777.6	5085.4	5509.0	5831.1	6169.2	5599.1
60°	4822.1	4490.2	4345.3	4590.1	5215.5	5280.0	5581.2	5945.3	6291.0	6409.4	5574.0
62.5°	5111.5	4752.5	4621.4	4923.5	5763.5	5923.3	6145.6	6377.6	6673.6	6467.7	5270.3
65°	5433.7	5074.1	4991.7	5444.9	6506.7	6665.4	6955.9	6886.2	6804.8	6260.8	4767.8
67.5°	5774.8	5409.6	5425.0	6049.8	7383.0	7410.2	7856.3	7393.2	6650.6	5712.8	3924.3
70°	5958.1	5584.2	5742.5	6694.6	8274.7	8235.8	8326.9	7529.5	6022.2	4515.8	2704.8
72.5°	5735.8	5402.4	5692.3	6966.1	8728.5	8686.5	8062.7	6720.8	4708.4	2808.3	1402.3
75°	4856.4	4534.8	4978.3	6209.6	7857.8	7896.7	6861.6	4997.8	2695.6	1129.3	582.3
77.5°	3299.9	3134.0	3514.0	4628.5	5836.7	5971.5	5091.0	2922.5	1131.9	467.6	352.4
80°	1744.0	1665.1	1945.8	2666.4	3695.9	3796.2	2993.7	1455.6	579.8	302.7	251.5
82.5°	947.5	914.2	1064.8	1371.1	2099.9	2187.5	1552.4	967.0	390.8	189.5	153.7
85°	636.6	623.8	723.7	736.5	993.1	1021.8	813.3	744.7	234.6	92.7	101.4
87.5°	318.6	305.8	381.1	336.5	379.0	379.5	372.9	475.3	59.4	30.7	18.4
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°	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5
2.5°	836.9	819.0	757.0	756.5	765.7	759.6	764.2	739.1	728.3	777.5	774.9
5°	1040.2	986.4	934.7	916.8	895.8	850.2	852.8	853.3	845.6	874.8	876.8
7.5°	1159.6	1095.0	1047.4	952.1	877.4	819.0	826.7	835.4	826.7	865.6	879.9
10°	1177.0	1125.8	1068.9	962.9	913.2	860.5	807.2	760.1	754.4	736.5	742.1
12.5°	1280.4	1237.9	1119.1	1002.8	945.0	864.0	766.7	712.9	667.9	675.6	661.2
15°	1365.5	1335.2	1192.9	1040.7	902.5	802.1	698.6	624.9	584.4	579.8	565.4
17.5°	1480.7	1437.7	1199.5	1014.6	847.6	727.3	610.5	527.0	509.6	502.4	495.3
20°	1536.0	1458.7	1175.4	932.7	783.6	638.2	523.4	451.7	446.6	459.4	456.9
22.5°	1584.2	1476.1	1153.9	883.0	683.8	548.0	464.0	416.9	411.3	427.7	430.7
25°	1612.3	1525.8	1130.4	832.3	621.8	480.9	419.5	392.8	393.9	415.4	412.8
27.5°	1739.3	1543.2	1071.0	772.4	550.6	431.3	398.0	384.1	378.5	408.2	410.8
30°	1819.2	1656.9	1057.6	708.9	497.8	394.9	378.5	372.9	371.8	407.7	410.3
32.5°	1967.8	1694.8	1063.8	639.7	450.2	383.6	364.2	363.6	373.9	408.2	412.3
35°	2173.7	1854.6	1034.1	600.3	424.1	366.2	352.9	357.0	374.4	411.8	417.4
37.5°	2575.2	2005.2	1043.3	563.4	415.4	360.6	349.8	352.4	380.5	421.0	436.4
40°	2893.3	2278.2	1029.0	545.0	403.6	359.5	343.2	353.4	380.0	426.1	440.0
42.5°	3354.2	2495.8	1030.5	526.5	403.1	355.4	342.1	354.4	379.0	421.5	440.5
45°	3749.6	2691.0	1052.5	515.8	398.0	362.1	340.6	356.0	372.4	405.1	426.1
47.5°	4073.8	2908.6	1075.1	505.5	395.9	368.3	339.1	345.2	361.1	386.7	405.6
50°	4338.1	3061.8	1103.7	503.5	395.9	365.2	335.0	334.5	347.8	368.3	386.2
52.5°	4544.0	3169.9	1123.2	506.0	395.9	353.4	329.8	325.7	333.9	348.8	366.7
55°	4693.1	3203.1	1107.3	512.7	395.4	342.6	320.6	317.0	321.1	331.4	348.3
57.5°	4753.0	3115.6	1012.6	500.9	395.4	335.0	309.4	305.3	309.4	317.0	333.9
60°	4602.9	2833.9	875.8	470.7	387.7	324.7	296.5	294.0	300.1	306.8	323.2
62.5°	4226.5	2459.5	729.8	434.8	371.8	316.0	284.3	284.8	294.5	303.7	320.1
65°	3641.6	2006.7	608.5	398.5	351.9	302.2	271.5	275.0	288.9	301.2	317.5
67.5°	2865.6	1486.8	512.2	363.1	323.7	279.6	257.1	258.1	267.9	279.6	295.5
70°	1915.5	946.0	421.0	321.6	286.8	250.5	235.1	231.5	228.9	239.2	253.0
72.5°	971.6	558.8	345.7	275.0	246.9	218.7	206.9	197.7	190.5	196.7	207.4
75°	509.1	390.8	279.1	228.4	203.8	185.9	177.2	164.9	159.8	163.4	171.1
77.5°	360.1	305.8	225.9	180.8	165.9	147.5	149.0	136.2	132.1	134.2	142.4
80°	276.6	242.3	173.6	136.8	128.0	110.1	115.2	107.6	102.4	101.4	107.6
82.5°	188.5	182.3	123.4	95.8	89.6	76.8	84.0	80.9	74.3	70.2	73.2
85°	127.0	120.9	75.3	55.3	52.8	39.9	51.2	49.2	43.5	37.4	37.9
87.5°	22.0	40.5	21.5	13.8	12.8	4.6	11.8	11.3	10.2	5.1	4.1
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)