

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: P368307

Luminaire Tested: **MSA-SA4A-830-U-T2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368307
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4A-830-U-T2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9292 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G2

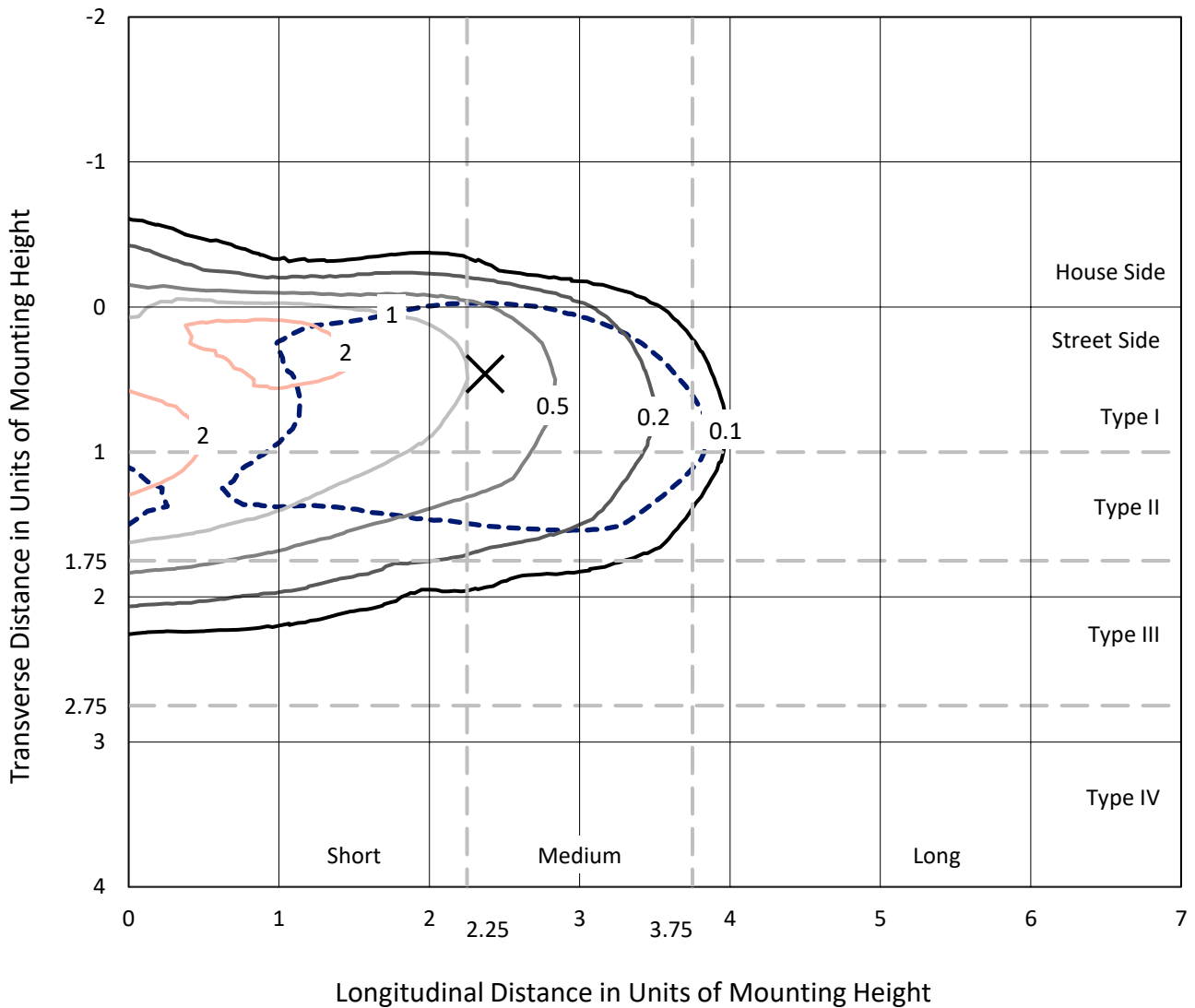
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P368307
 CATALOG NUMBER: MSA-SA4A-830-U-T2-HSS

Iso-Footcandle Lines of Horizontal Illumination

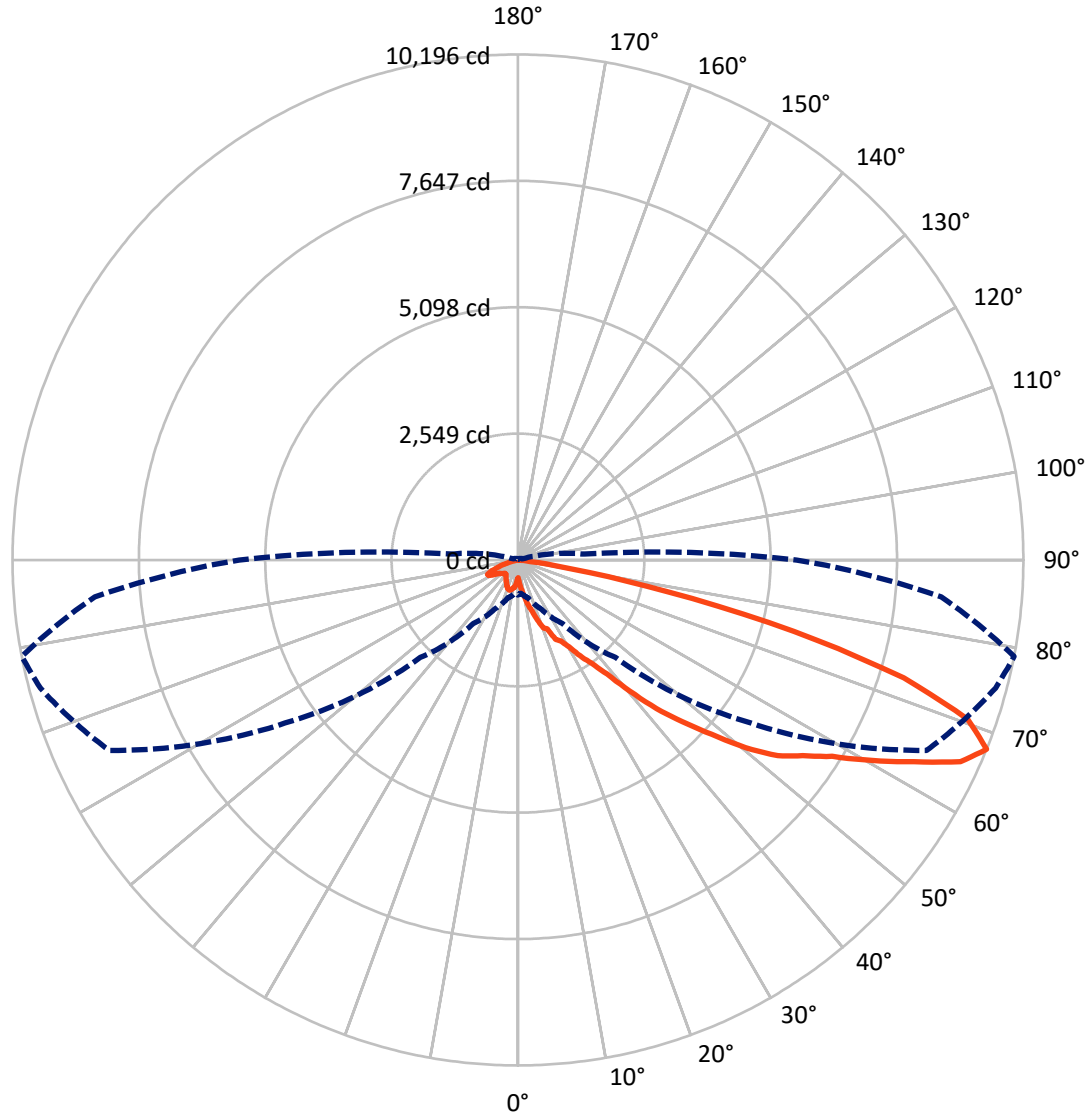
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.8 fc
 Type II - Medium - N/A

REPORT NUMBER: P368307
CATALOG NUMBER: MSA-SA4A-830-U-T2-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P368307

CATALOG NUMBER: MSA-SA4A-830-U-T2-HSS

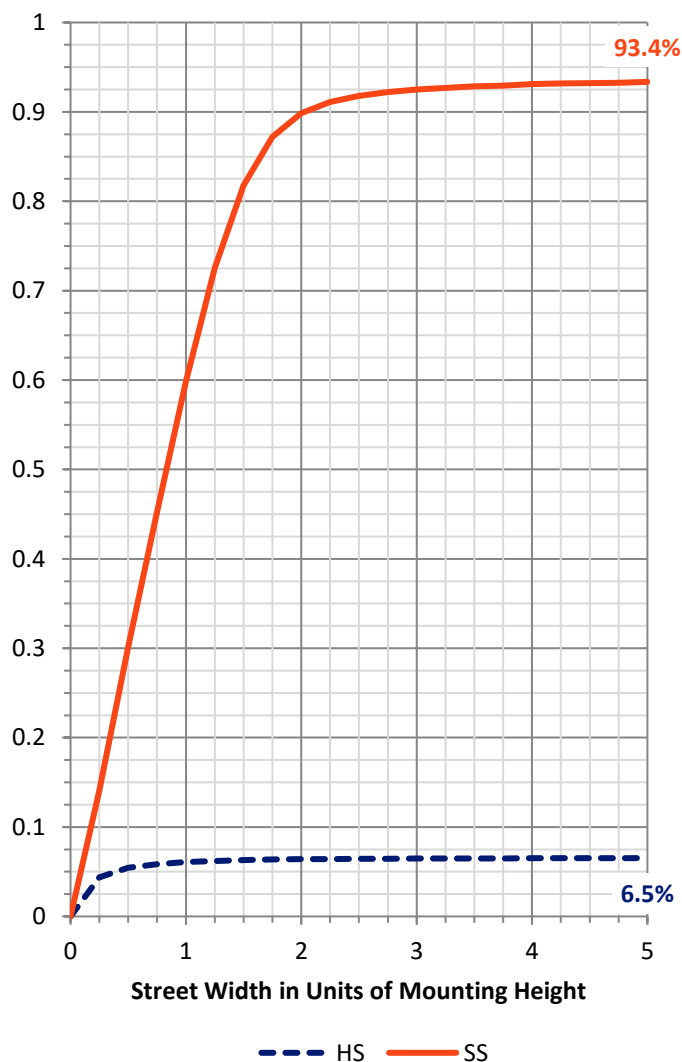
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	610.6	0.0	610.6
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	8681.4	0.0	8681.4
	% Fixture	93.4	0.0	93.4
Total	Lumens	9292.0	0.0	9292.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.1	0.6
10°-20°	207.6	2.2
20°-30°	400.6	4.3
30°-40°	786.8	8.5
40°-50°	1576.2	17.0
50°-60°	2519.4	27.1
60°-70°	2534.9	27.3
70°-80°	1143.6	12.3
80°-90°	70.8	0.8
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°	9292.0	100.0
0°-180°	9292.0	100.0

Coefficient of Utilization



REPORT NUMBER: P368307

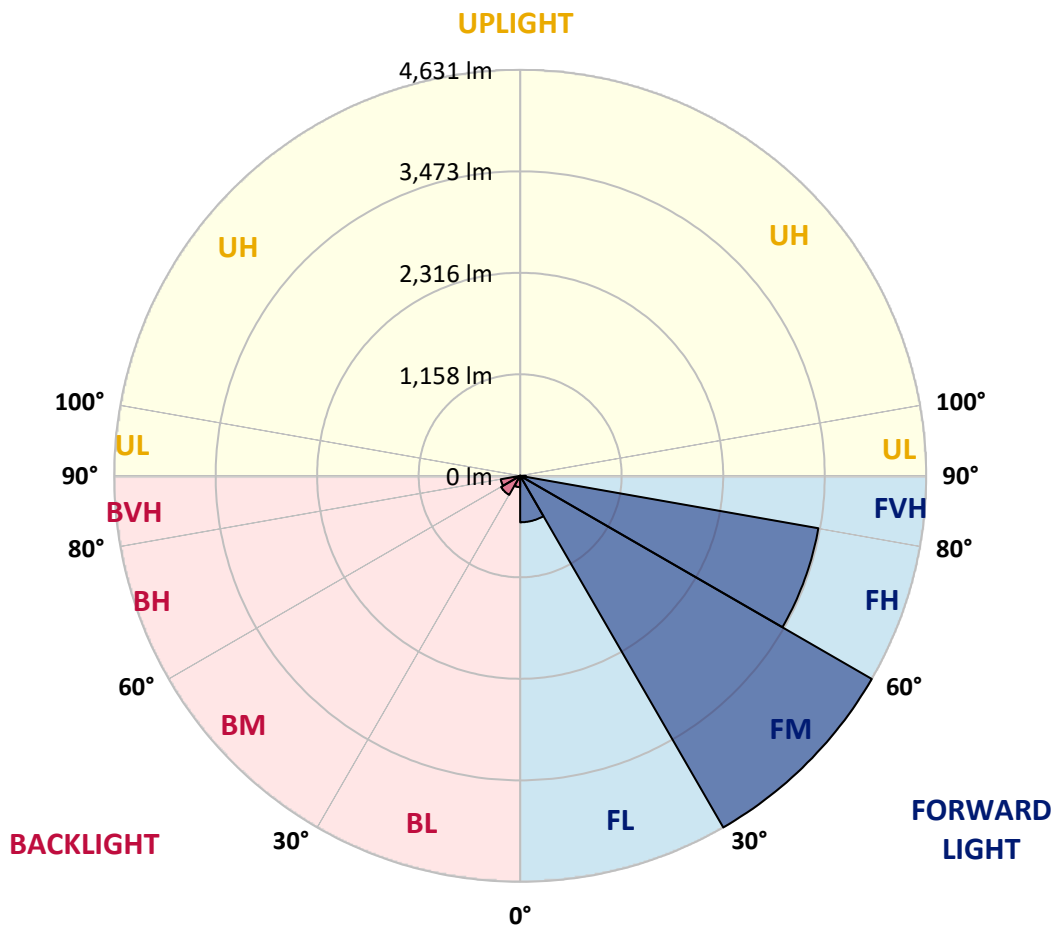
CATALOG NUMBER: MSA-SA4A-830-U-T2-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	530.5	5.7			
FM (30°-60°)	4631.3	49.8			
FH (60°-80°)	3453.5	37.2			G2/5000
FVH (80°-90°)	66.2	0.7			G1/100
BL (0°-30°)	129.8	1.4	B1/500		
BM (30°-60°)	251.2	2.7	B1/1000		
BH (60°-80°)	225.1	2.4	B1/500		G1/500
BVH (80°-90°)	4.5	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-G2

Type II Medium





REPORT NUMBER: P368307

CATALOG NUMBER: MSA-SA4A-830-U-T2-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0
2.5°	483.5	466.1	438.0	453.8	452.8	461.0	445.6	428.7	401.6	428.7	430.8
5°	696.1	663.8	643.4	639.3	616.7	595.7	591.1	573.7	560.4	536.3	557.8
7.5°	867.2	852.3	816.0	811.9	756.6	725.8	735.6	727.9	677.2	652.1	673.1
10°	939.9	914.3	919.4	914.3	890.8	899.5	879.5	856.4	816.0	774.5	722.2
12.5°	968.1	964.0	1006.5	1001.4	1056.7	1123.3	1078.7	1040.3	946.6	936.3	865.1
15°	1028.5	1054.2	1048.0	1069.5	1104.9	1218.1	1217.0	1226.3	1126.9	1073.6	970.7
17.5°	1082.3	1101.3	1070.5	1095.1	1191.4	1260.1	1351.8	1315.9	1327.2	1272.9	1113.6
20°	1059.3	1080.8	1050.1	1035.2	1204.8	1334.9	1457.3	1431.2	1498.8	1465.0	1245.2
22.5°	1203.2	1162.7	1085.4	1037.3	1163.8	1333.3	1494.7	1603.8	1592.0	1509.0	1367.6
25°	1381.0	1356.4	1263.7	1178.6	1189.9	1324.1	1612.5	1772.8	1807.6	1772.3	1483.9
27.5°	1620.7	1615.0	1425.5	1388.6	1279.0	1283.6	1630.9	1985.9	1906.5	1851.2	1619.7
30°	1933.6	1889.1	1664.2	1616.1	1454.2	1374.8	1743.6	2169.8	2111.4	2036.1	1747.2
32.5°	2270.2	2276.8	1990.0	1831.2	1701.1	1606.8	1699.0	2255.8	2364.9	2304.0	1906.5
35°	2652.3	2682.0	2331.1	2144.7	1891.6	1752.8	1890.6	2520.1	2715.8	2555.5	2120.1
37.5°	3240.8	3239.8	2830.0	2458.7	2274.8	2124.2	2209.7	2760.4	3147.1	2921.7	2503.2
40°	3758.7	3646.0	3264.9	2838.2	2551.4	2510.4	2448.4	3089.2	3607.6	3471.9	2843.9
42.5°	4145.4	4066.0	3605.5	3273.6	2918.1	2788.0	2766.0	3571.2	4287.3	4097.3	3330.0
45°	4608.0	4347.8	4008.7	3709.5	3347.4	3309.5	3257.7	4060.4	5078.2	4650.0	3752.6
47.5°	5022.4	4777.5	4456.9	4072.7	3656.8	3969.2	3770.5	4490.2	5653.4	5251.3	4218.7
50°	5371.2	5111.0	4751.9	4459.4	4281.2	4493.2	4161.8	4844.1	6274.8	5949.0	4654.6
52.5°	5548.9	5254.4	4976.8	4796.0	4905.1	4857.4	4692.5	5272.8	6804.4	6560.6	5040.8
55°	5402.9	5115.1	4998.8	5088.4	5419.8	5282.1	5295.4	5937.2	7304.3	6968.3	5376.8
57.5°	4755.5	4492.7	4544.5	4789.8	5425.0	5785.6	5982.8	6582.6	7705.4	7476.4	5895.2
60°	3597.4	3385.8	3577.4	4012.8	4914.8	5685.2	6470.4	7228.0	8278.6	8206.9	6679.9
62.5°	2196.9	2082.2	2353.7	2896.6	3916.5	5192.9	6754.7	8088.5	8891.7	8968.0	7512.3
65°	1120.7	1069.0	1295.4	1772.8	2646.2	4265.8	6549.3	8623.3	9525.3	9807.1	8305.7
67.5°	705.8	672.6	793.4	1081.3	1561.3	2782.4	5734.4	9091.0	9973.0	10195.8	8570.5
70°	489.2	468.2	572.7	742.2	985.0	1498.8	4257.6	8654.5	9618.0	9628.3	7929.7
72.5°	310.4	294.0	395.9	549.6	726.8	774.0	2440.7	6791.1	8233.0	8138.2	6421.8
75°	201.3	193.1	251.5	402.6	558.3	477.4	1206.3	4582.4	5903.4	5754.8	4265.3
77.5°	144.4	139.3	168.5	268.9	397.5	334.0	540.9	2731.2	3384.8	3060.0	2070.4
80°	87.1	86.6	121.9	168.5	282.7	235.6	250.0	1240.1	1312.3	1070.0	632.6
82.5°	43.5	45.1	68.1	108.6	181.8	154.2	114.2	412.9	352.4	259.7	128.1
85°	10.2	12.8	35.9	74.8	91.2	61.5	54.3	108.1	96.8	73.2	37.4
87.5°	0.0	0.0	11.3	17.9	24.6	10.2	18.4	20.5	26.1	20.5	7.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P368307
 CATALOG NUMBER: MSA-SA4A-830-U-T2-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0
2.5°	431.3	425.1	387.8	378.0	377.0	366.2	368.8	358.6	359.1	382.1	382.1
5°	549.6	513.8	477.9	446.1	424.6	393.9	382.6	378.0	373.9	383.1	388.8
7.5°	645.4	592.6	528.1	459.0	394.9	350.9	344.7	333.5	329.4	338.6	345.8
10°	687.9	622.4	533.7	432.8	372.9	337.0	307.3	291.5	288.4	287.9	290.4
12.5°	778.1	696.6	539.9	423.1	358.0	318.6	284.8	258.2	233.6	236.1	233.6
15°	850.3	754.0	539.9	399.5	322.2	282.7	223.3	210.0	206.4	212.1	207.5
17.5°	959.4	810.9	512.7	357.5	291.5	219.7	197.2	196.2	203.4	211.5	206.4
20°	1025.0	818.5	467.1	309.4	239.2	190.5	182.4	174.2	184.4	191.1	188.5
22.5°	1093.1	819.0	421.6	283.8	192.6	173.6	160.3	153.7	155.2	161.4	162.4
25°	1122.3	799.1	379.0	250.0	174.7	155.2	141.4	134.2	131.6	134.7	133.7
27.5°	1201.7	760.7	332.9	213.1	166.0	137.8	125.0	116.3	108.6	113.7	114.7
30°	1212.9	748.4	307.8	189.5	154.7	121.9	110.6	101.4	95.8	103.0	103.0
32.5°	1248.8	680.7	295.0	179.8	142.9	112.7	97.3	90.7	89.6	94.2	94.8
35°	1304.1	651.0	276.1	172.1	132.2	101.9	87.6	84.5	83.5	87.1	87.1
37.5°	1491.6	614.2	255.1	165.4	122.9	96.3	85.0	79.9	80.4	83.5	85.5
40°	1616.1	618.8	223.8	157.3	112.2	91.2	79.9	76.3	75.8	77.3	78.9
42.5°	1847.1	622.4	210.0	148.5	104.0	85.0	74.8	72.2	70.2	71.7	73.2
45°	2105.2	641.3	202.8	141.4	99.4	81.4	70.2	68.6	64.0	65.1	67.1
47.5°	2354.2	710.5	194.1	131.1	95.3	79.4	65.6	62.0	58.9	58.4	60.4
50°	2636.9	777.6	184.4	119.9	91.2	76.3	61.0	55.3	53.3	53.3	54.8
52.5°	2890.0	841.6	175.2	112.2	88.1	70.7	56.9	51.2	49.7	49.7	51.7
55°	3156.3	908.7	167.0	105.0	84.0	65.1	53.3	48.1	47.6	46.6	48.1
57.5°	3626.5	1055.2	156.7	98.9	78.4	60.4	50.2	45.1	44.1	42.5	44.1
60°	4311.4	1280.0	143.4	92.7	71.7	57.4	47.6	41.5	40.0	37.4	37.9
62.5°	4980.9	1461.9	128.1	85.0	65.6	54.3	43.5	37.4	34.8	31.8	32.3
65°	5554.6	1533.6	111.7	75.8	59.4	47.1	37.9	32.8	29.2	25.1	24.6
67.5°	5622.2	1354.3	95.8	67.1	53.3	40.0	32.3	29.2	23.6	20.0	19.0
70°	5059.8	1009.1	79.9	59.4	46.1	33.8	27.7	25.6	22.0	19.0	17.4
72.5°	4029.2	744.8	67.1	52.8	40.5	28.7	23.6	24.1	22.0	18.4	16.4
75°	2664.6	426.2	54.8	44.1	33.8	23.1	21.5	21.5	21.0	17.4	15.4
77.5°	1282.1	183.9	42.0	34.8	27.1	17.4	19.5	19.5	20.0	15.9	12.8
80°	363.7	55.3	26.1	23.6	20.0	11.8	15.4	14.9	13.3	9.2	5.6
82.5°	65.1	21.5	11.8	12.3	11.3	4.6	8.7	8.2	6.7	3.6	0.5
85°	17.9	8.2	6.7	7.2	5.6	1.5	3.6	4.6	3.6	2.0	0.0
87.5°	4.6	3.6	4.6	5.1	4.1	0.5	1.5	0.5	1.5	0.5	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)