

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: P368439

Luminaire Tested: **MSA-SA4B-830-U-T2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368439
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-SA4B-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: 11644 lumens
Efficiency: N/A
Efficacy: 68.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G2

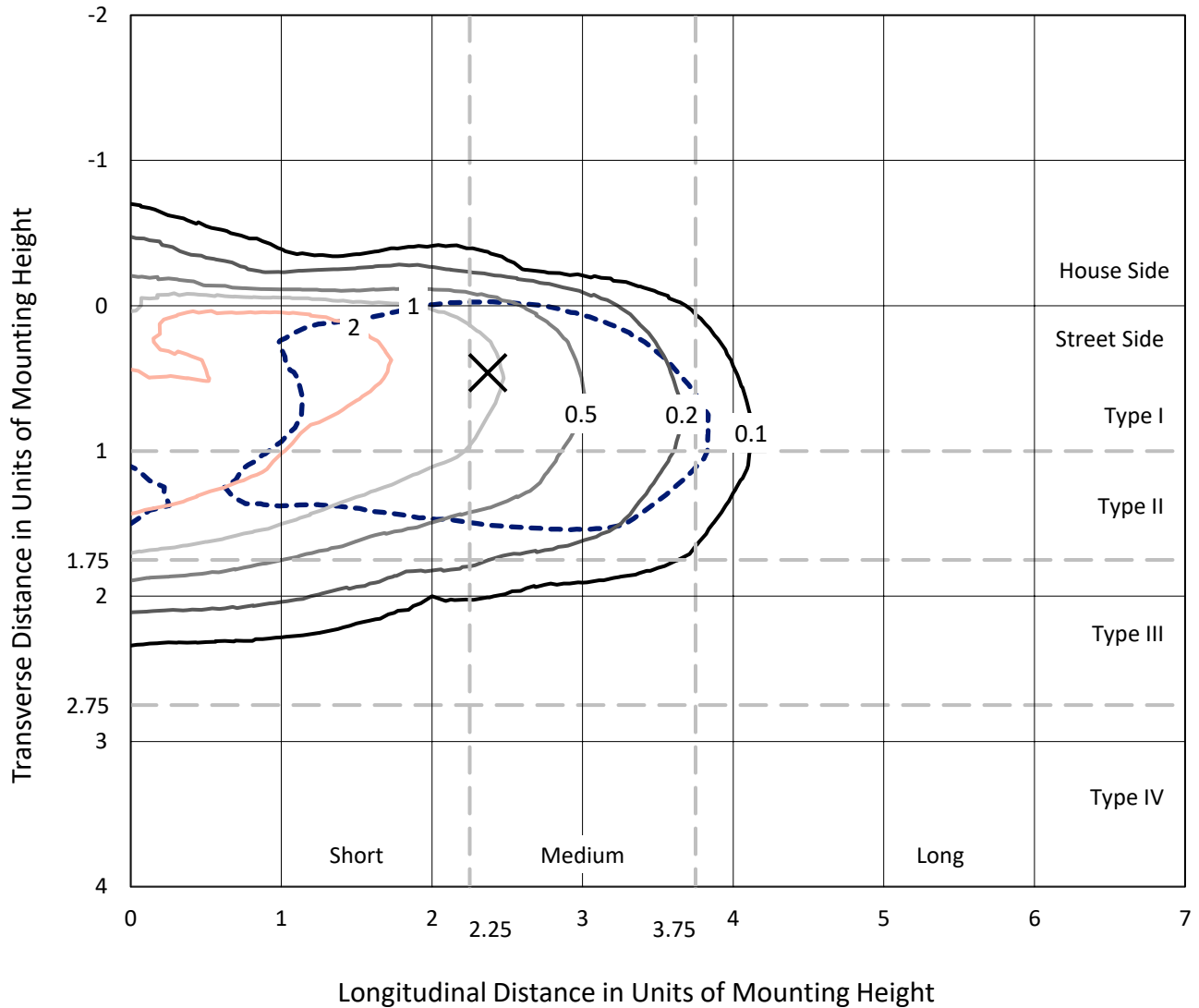
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P368439
 CATALOG NUMBER: MSA-SA4B-830-U-T2-HSS

Iso-Footcandle Lines of Horizontal Illumination

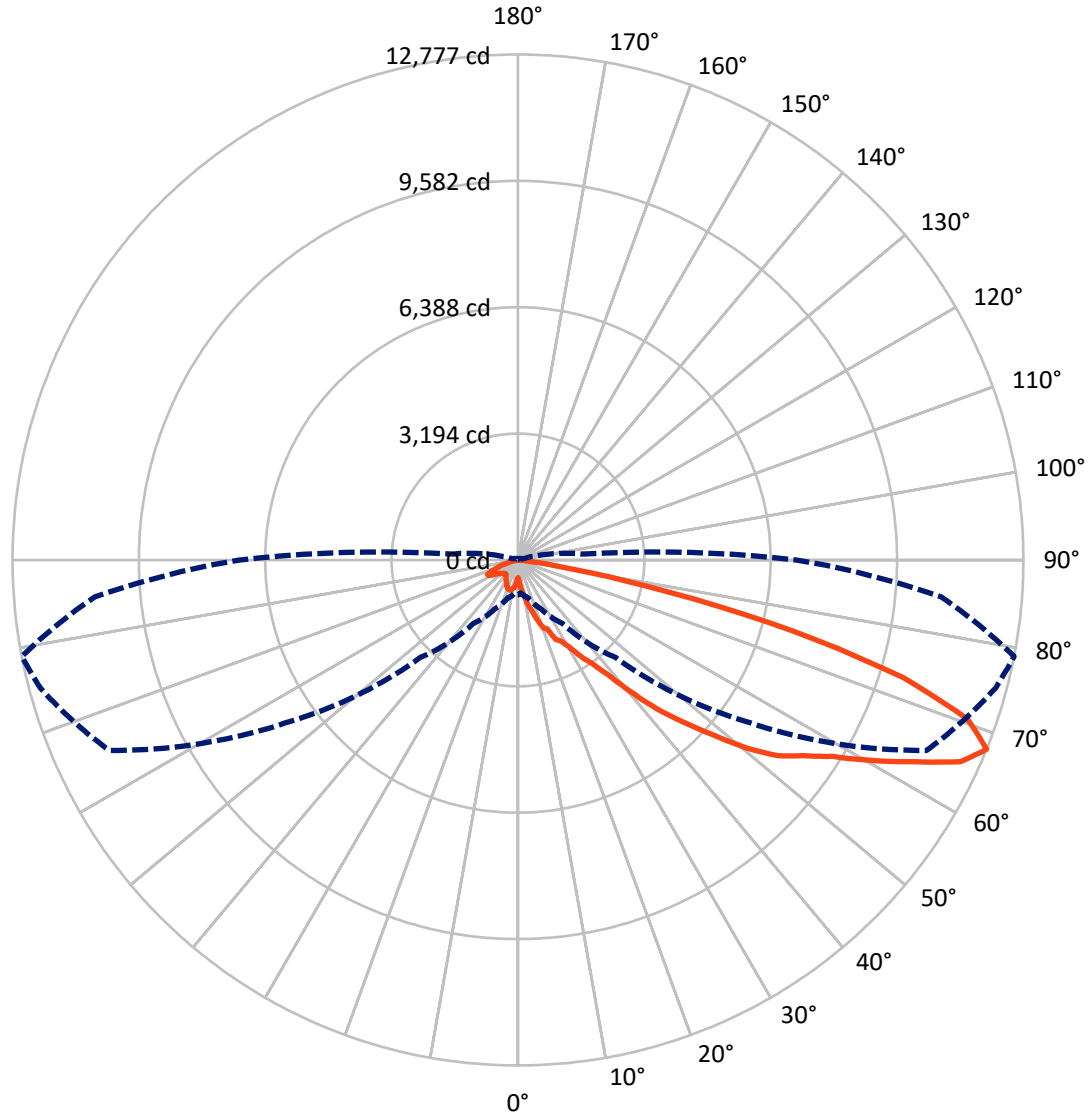
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.5 fc
 Type II - Medium - N/A

REPORT NUMBER: P368439
CATALOG NUMBER: MSA-SA4B-830-U-T2-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P368439

CATALOG NUMBER: MSA-SA4B-830-U-T2-HSS

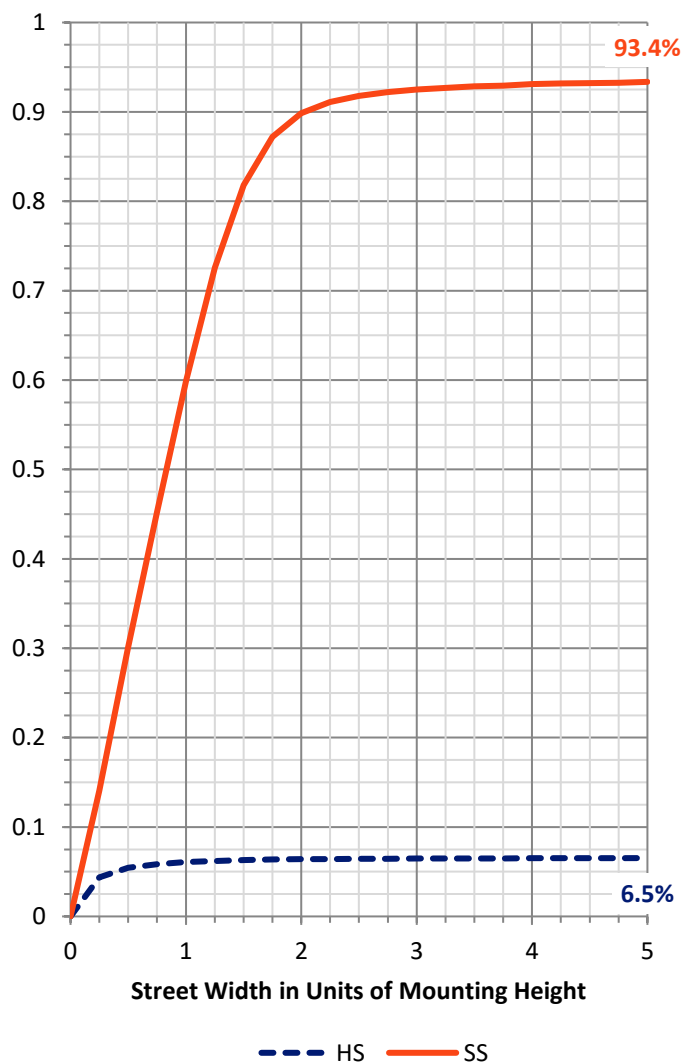
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	765.1	0.0	765.1
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	10878.9	0.0	10878.9
	% Fixture	93.4	0.0	93.4
Total	Lumens	11644.0	0.0	11644.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.3	0.6
10°-20°	260.2	2.2
20°-30°	501.9	4.3
30°-40°	986.0	8.5
40°-50°	1975.2	17.0
50°-60°	3157.1	27.1
60°-70°	3176.6	27.3
70°-80°	1433.0	12.3
80°-90°	88.7	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°	11644.0	100.0
0°-180°	11644.0	100.0

Coefficient of Utilization



REPORT NUMBER: P368439

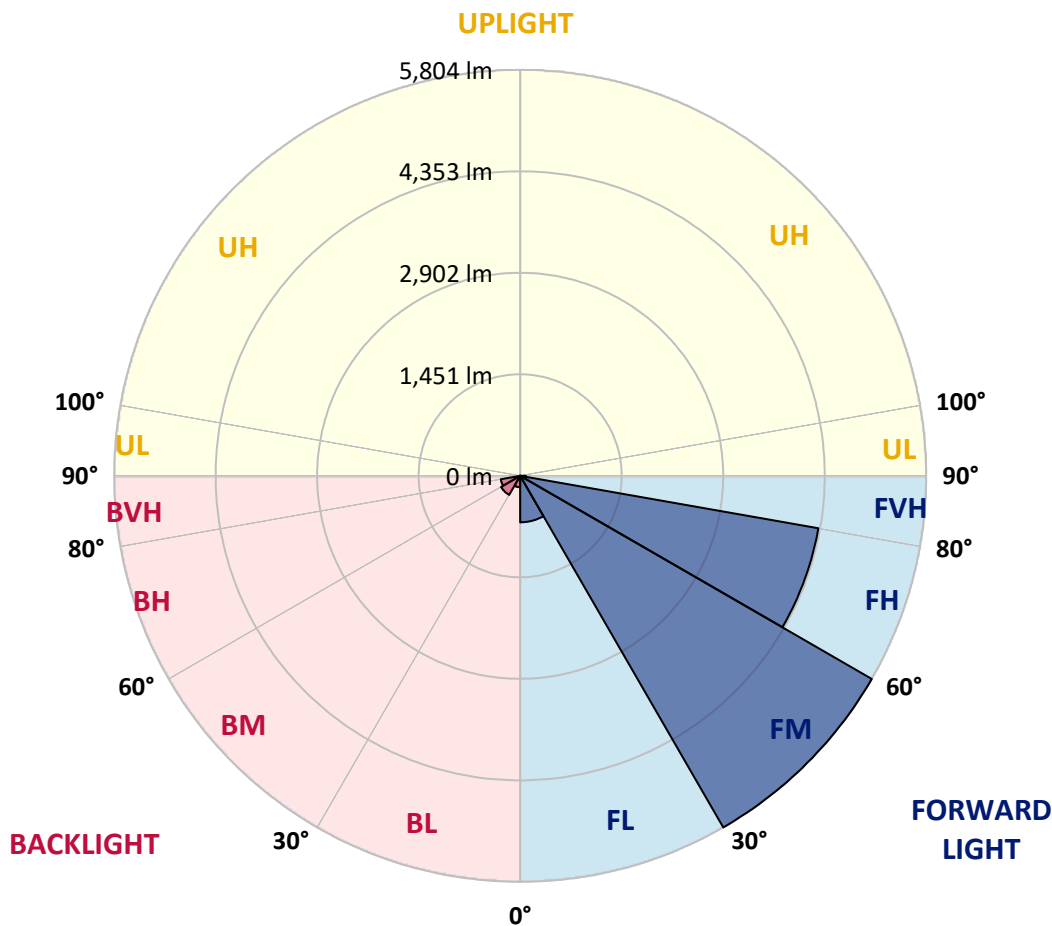
CATALOG NUMBER: MSA-SA4B-830-U-T2-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	664.7	5.7			
FM (30°-60°)	5803.5	49.8			
FH (60°-80°)	4327.6	37.2			G2/5000
FVH (80°-90°)	83.0	0.7			G1/100
BL (0°-30°)	162.6	1.4	B1/500		
BM (30°-60°)	314.8	2.7	B1/1000		
BH (60°-80°)	282.0	2.4	B1/500		G1/500
BVH (80°-90°)	5.6	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: P368439
 CATALOG NUMBER: MSA-SA4B-830-U-T2-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	448.7	448.7	448.7	448.7	448.7	448.7	448.7	448.7	448.7	448.7	448.7
2.5°	605.9	584.1	548.8	568.7	567.4	577.7	558.4	537.3	503.2	537.3	539.8
5°	872.3	831.9	806.2	801.1	772.8	746.5	740.7	718.9	702.2	672.0	699.0
7.5°	1086.7	1068.1	1022.5	1017.4	948.1	909.5	921.7	912.1	848.6	817.1	843.4
10°	1177.8	1145.8	1152.2	1145.8	1116.2	1127.1	1102.1	1073.2	1022.5	970.5	905.0
12.5°	1213.2	1208.0	1261.3	1254.9	1324.2	1407.6	1351.8	1303.7	1186.2	1173.4	1084.1
15°	1288.9	1321.0	1313.3	1340.2	1384.5	1526.4	1525.1	1536.7	1412.1	1345.4	1216.4
17.5°	1356.3	1380.0	1341.5	1372.3	1493.0	1579.0	1693.9	1649.0	1663.1	1595.1	1395.4
20°	1327.4	1354.4	1315.9	1297.2	1509.7	1672.7	1826.1	1793.4	1878.1	1835.8	1560.4
22.5°	1507.8	1457.1	1360.1	1299.8	1458.3	1670.8	1873.0	2009.7	1995.0	1891.0	1713.8
25°	1730.5	1699.7	1583.5	1477.0	1491.1	1659.3	2020.6	2221.5	2265.2	2220.9	1859.5
27.5°	2030.9	2023.8	1786.4	1740.1	1602.8	1608.5	2043.7	2488.6	2389.1	2319.8	2029.6
30°	2423.1	2367.3	2085.5	2025.1	1822.3	1722.8	2185.0	2719.0	2645.8	2551.5	2189.5
32.5°	2844.8	2853.2	2493.7	2294.7	2131.7	2013.6	2129.1	2826.8	2963.6	2887.2	2389.1
35°	3323.7	3360.9	2921.2	2687.5	2370.5	2196.5	2369.2	3158.0	3403.2	3202.3	2656.7
37.5°	4061.2	4059.9	3546.4	3081.0	2850.6	2661.9	2769.1	3459.1	3943.7	3661.3	3136.9
40°	4710.1	4568.9	4091.3	3556.7	3197.2	3145.9	3068.2	3871.2	4520.8	4350.7	3563.7
42.5°	5194.7	5095.2	4518.2	4102.3	3656.8	3493.7	3466.1	4475.2	5372.5	5134.4	4172.9
45°	5774.3	5448.3	5023.3	4648.5	4194.7	4147.2	4082.4	5088.2	6363.6	5827.0	4702.4
47.5°	6293.6	5986.8	5585.0	5103.6	4582.4	4973.9	4724.9	5626.7	7084.4	6580.5	5286.5
50°	6730.7	6404.7	5954.7	5588.2	5364.8	5630.6	5215.3	6070.3	7863.0	7454.8	5832.8
52.5°	6953.5	6584.4	6236.5	6009.9	6146.6	6086.9	5880.3	6607.5	8526.7	8221.2	6316.7
55°	6770.5	6409.8	6264.1	6376.4	6791.7	6619.1	6635.7	7440.0	9153.2	8732.1	6737.8
57.5°	5959.2	5629.9	5694.8	6002.2	6798.1	7250.0	7497.2	8248.8	9655.8	9368.9	7387.4
60°	4507.9	4242.8	4482.9	5028.5	6158.8	7124.2	8108.2	9057.6	10374.1	10284.2	8370.7
62.5°	2753.0	2609.2	2949.4	3629.8	4907.8	6507.4	8464.5	10135.9	11142.4	11238.0	9413.8
65°	1404.4	1339.6	1623.3	2221.5	3315.9	5345.6	8207.1	10806.0	11936.4	12289.4	10408.1
67.5°	884.5	842.8	994.3	1355.0	1956.4	3486.7	7185.8	11392.1	12497.4	12776.6	10739.9
70°	613.0	586.7	717.6	930.1	1234.3	1878.1	5335.3	10845.2	12052.6	12065.4	9936.9
72.5°	389.0	368.4	496.2	688.7	910.8	969.9	3058.6	8510.0	10316.9	10198.2	8047.2
75°	252.3	242.0	315.2	504.5	699.6	598.2	1511.6	5742.3	7397.7	7211.5	5344.9
77.5°	181.0	174.6	211.2	337.0	498.1	418.5	677.8	3422.5	4241.5	3834.6	2594.5
80°	109.1	108.5	152.8	211.2	354.3	295.3	313.2	1554.0	1644.5	1340.9	792.7
82.5°	54.6	56.5	85.4	136.1	227.9	193.2	143.1	517.4	441.6	325.4	160.5
85°	12.8	16.0	44.9	93.7	114.3	77.0	68.0	135.4	121.3	91.8	46.9
87.5°	0.0	0.0	14.1	22.5	30.8	12.8	23.1	25.7	32.7	25.7	9.6
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: P368439
 CATALOG NUMBER: MSA-SA4B-830-U-T2-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	448.7	448.7	448.7	448.7	448.7	448.7	448.7	448.7	448.7	448.7	448.7
2.5°	540.5	532.8	485.9	473.7	472.4	458.9	462.2	449.3	450.0	478.8	478.8
5°	688.7	643.8	598.9	559.1	532.1	493.6	479.5	473.7	468.6	480.1	487.2
7.5°	808.8	742.7	661.8	575.1	494.9	439.7	432.0	417.9	412.7	424.3	433.3
10°	862.0	779.9	668.8	542.4	467.3	422.4	385.1	365.2	361.4	360.7	363.9
12.5°	975.0	873.0	676.5	530.2	448.7	399.2	356.9	323.5	292.7	295.9	292.7
15°	1065.5	944.8	676.5	500.7	403.7	354.3	279.9	263.2	258.7	265.7	260.0
17.5°	1202.2	1016.1	642.5	448.0	365.2	275.4	247.1	245.8	254.8	265.1	258.7
20°	1284.4	1025.7	585.4	387.7	299.8	238.8	228.5	218.2	231.1	239.4	236.2
22.5°	1369.8	1026.4	528.3	355.6	241.3	217.6	200.9	192.6	194.5	202.2	203.5
25°	1406.4	1001.3	475.0	313.2	218.9	194.5	177.2	168.2	165.0	168.8	167.5
27.5°	1505.8	953.2	417.2	267.0	208.0	172.7	156.6	145.7	136.1	142.5	143.8
30°	1520.0	937.8	385.8	237.5	193.8	152.8	138.6	127.1	120.0	129.0	129.0
32.5°	1564.9	853.1	369.7	225.3	179.1	141.2	122.0	113.6	112.3	118.1	118.7
35°	1634.2	815.8	346.0	215.7	165.6	127.7	109.8	105.9	104.6	109.1	109.1
37.5°	1869.2	769.6	319.7	207.3	154.1	120.7	106.6	100.1	100.8	104.6	107.2
40°	2025.1	775.4	280.5	197.1	140.6	114.3	100.1	95.6	95.0	96.9	98.8
42.5°	2314.6	779.9	263.2	186.1	130.3	106.6	93.7	90.5	87.9	89.9	91.8
45°	2638.1	803.6	254.2	177.2	124.5	102.1	87.9	86.0	80.2	81.5	84.1
47.5°	2950.1	890.3	243.3	164.3	119.4	99.5	82.2	77.7	73.8	73.2	75.7
50°	3304.4	974.4	231.1	150.2	114.3	95.6	76.4	69.3	66.8	66.8	68.7
52.5°	3621.5	1054.6	219.5	140.6	110.4	88.6	71.2	64.2	62.3	62.3	64.8
55°	3955.3	1138.7	209.3	131.6	105.3	81.5	66.8	60.3	59.7	58.4	60.3
57.5°	4544.5	1322.3	196.4	123.9	98.2	75.7	62.9	56.5	55.2	53.3	55.2
60°	5402.7	1604.1	179.7	116.2	89.9	71.9	59.7	52.0	50.1	46.9	47.5
62.5°	6241.6	1831.9	160.5	106.6	82.2	68.0	54.6	46.9	43.6	39.8	40.4
65°	6960.5	1921.8	139.9	95.0	74.5	59.1	47.5	41.1	36.6	31.5	30.8
67.5°	7045.3	1697.1	120.0	84.1	66.8	50.1	40.4	36.6	29.5	25.0	23.7
70°	6340.5	1264.5	100.1	74.5	57.8	42.4	34.7	32.1	27.6	23.7	21.8
72.5°	5049.0	933.3	84.1	66.1	50.7	35.9	29.5	30.2	27.6	23.1	20.5
75°	3339.1	534.0	68.7	55.2	42.4	28.9	27.0	27.0	26.3	21.8	19.3
77.5°	1606.6	230.4	52.6	43.6	34.0	21.8	24.4	24.4	25.0	19.9	16.0
80°	455.7	69.3	32.7	29.5	25.0	14.8	19.3	18.6	16.7	11.6	7.1
82.5°	81.5	27.0	14.8	15.4	14.1	5.8	10.9	10.3	8.3	4.5	0.6
85°	22.5	10.3	8.3	9.0	7.1	1.9	4.5	5.8	4.5	2.6	0.0
87.5°	5.8	4.5	5.8	6.4	5.1	0.6	1.9	0.6	1.9	0.6	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)