

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: P367251

Luminaire Tested: **MSA-SA2A-830-U-T2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367251
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-SA2A-830-U-T2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 4764 lumens
Efficiency: N/A
Efficacy: 72.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G1

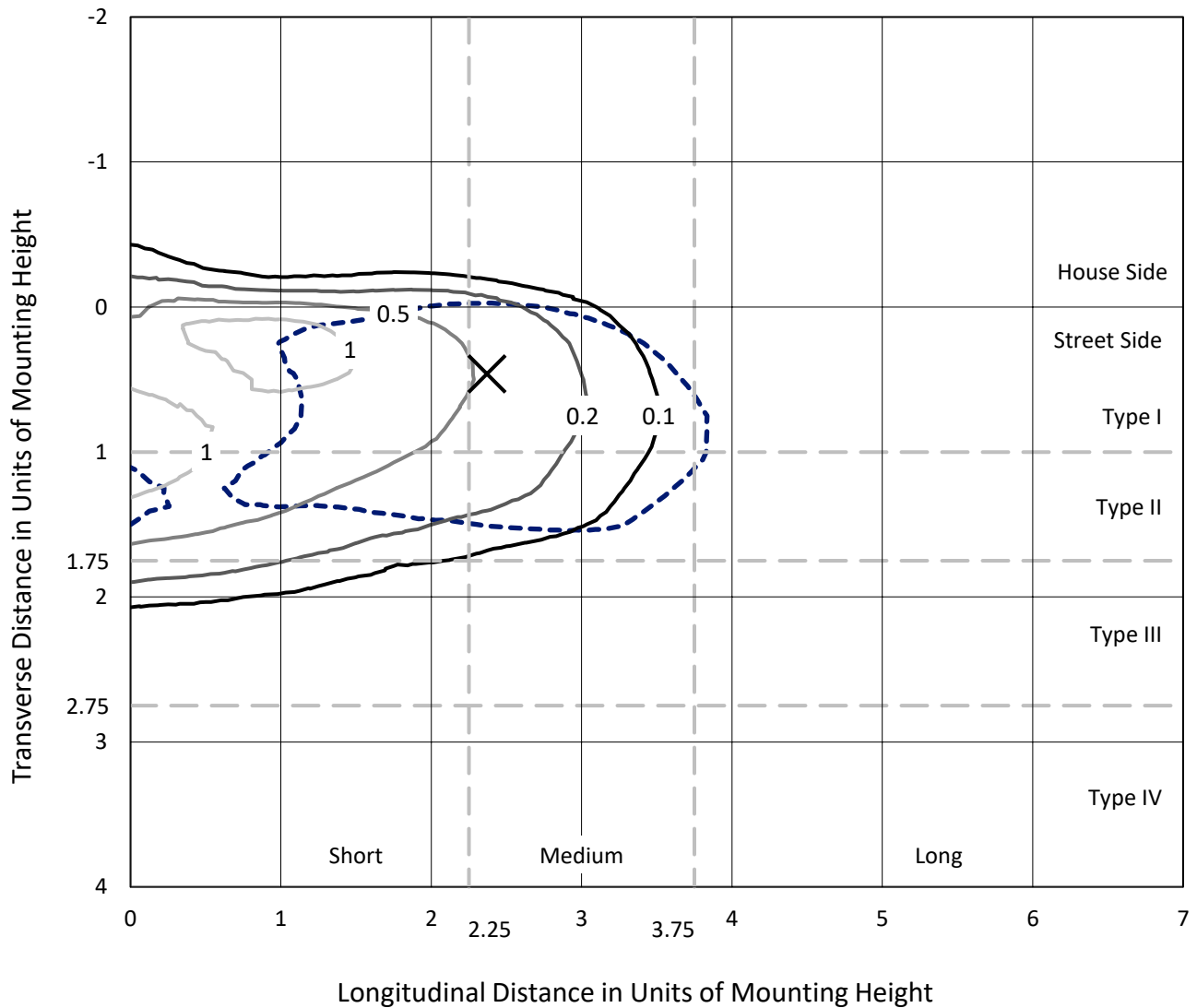
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

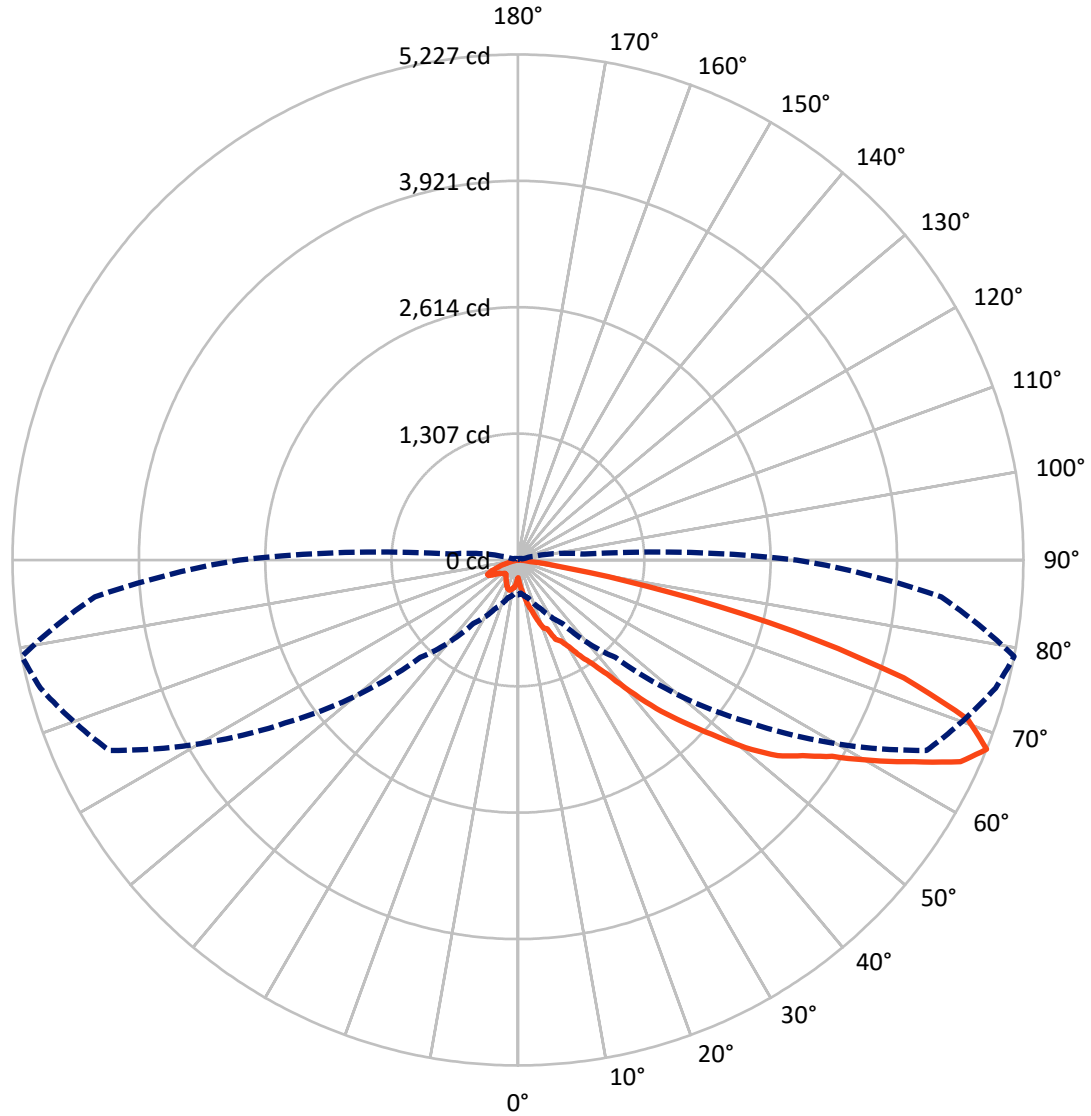
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.4 fc
 Type II - Medium - N/A

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Luminous Intensity Polar Plot



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

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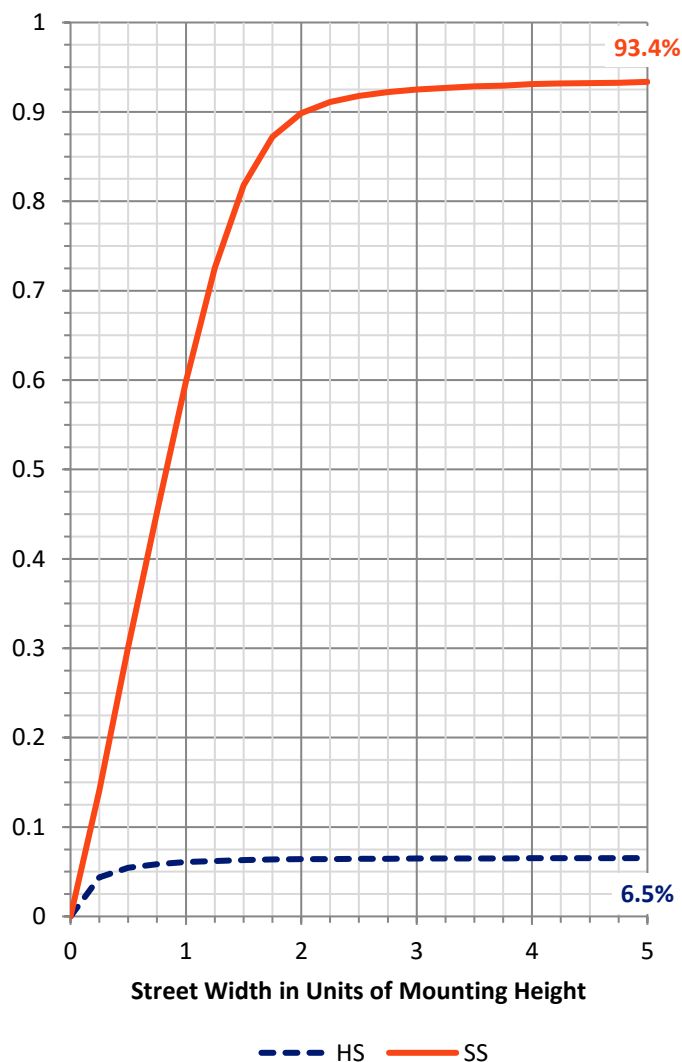
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	313.0	0.0	313.0
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	4451.0	0.0	4451.0
	% Fixture	93.4	0.0	93.4
Total	Lumens	4764.0	0.0	4764.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.7	0.6
10°-20°	106.4	2.2
20°-30°	205.4	4.3
30°-40°	403.4	8.5
40°-50°	808.1	17.0
50°-60°	1291.7	27.1
60°-70°	1299.7	27.3
70°-80°	586.3	12.3
80°-90°	36.3	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°	4764.0	100.0
0°-180°	4764.0	100.0

Coefficient of Utilization



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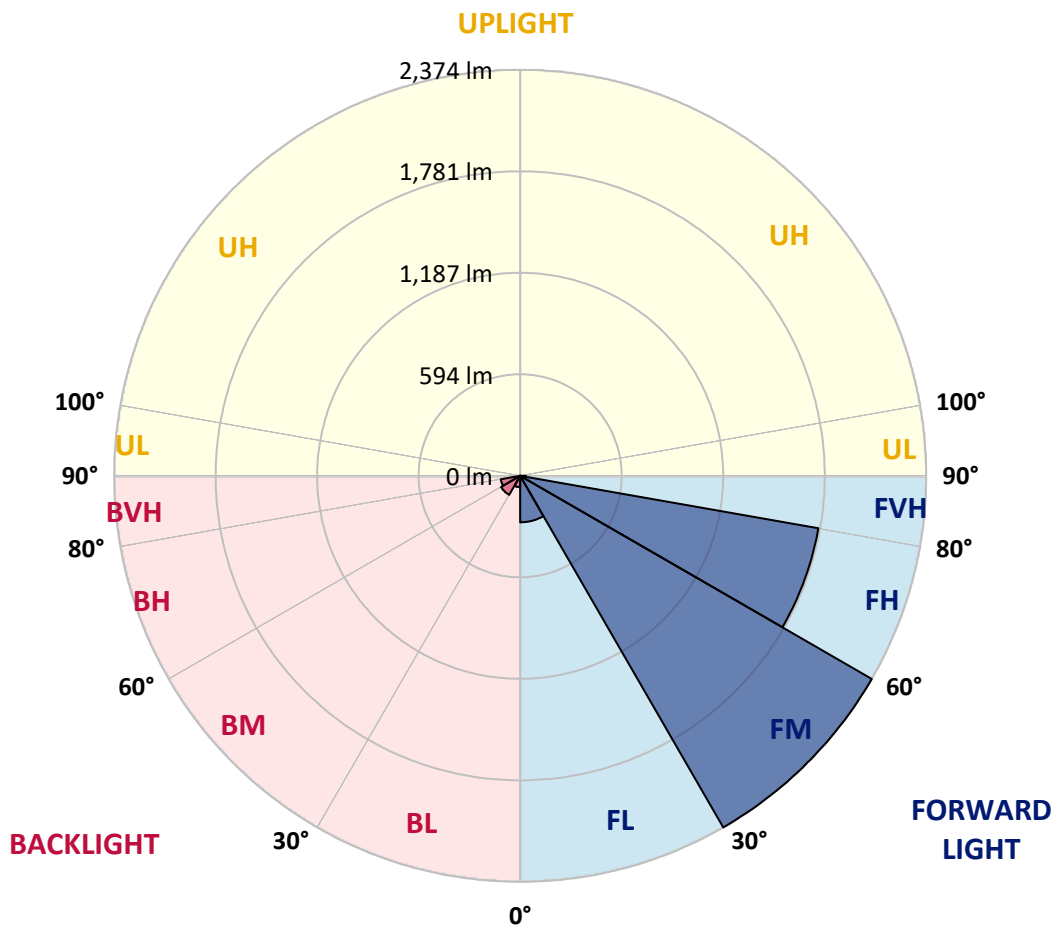
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	272.0	5.7			
FM (30°-60°)	2374.5	49.8			
FH (60°-80°)	1770.6	37.2			G1/1800
FVH (80°-90°)	34.0	0.7			G1/100
BL (0°-30°)	66.5	1.4	B0/110		
BM (30°-60°)	128.8	2.7	B0/220		
BH (60°-80°)	115.4	2.4	B1/500		G1/500
BVH (80°-90°)	2.3	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-G1

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6
2.5°	247.9	239.0	224.5	232.7	232.2	236.4	228.5	219.8	205.9	219.8	220.9
5°	356.9	340.4	329.8	327.7	316.2	305.4	303.1	294.1	287.3	275.0	286.0
7.5°	444.6	437.0	418.3	416.2	387.9	372.1	377.1	373.2	347.2	334.3	345.1
10°	481.9	468.8	471.4	468.8	456.7	461.2	450.9	439.1	418.3	397.1	370.3
12.5°	496.3	494.2	516.0	513.4	541.8	575.9	553.1	533.4	485.3	480.1	443.6
15°	527.3	540.5	537.3	548.3	566.5	624.5	624.0	628.7	577.8	550.4	497.7
17.5°	554.9	564.6	548.9	561.5	610.8	646.0	693.0	674.7	680.4	652.6	570.9
20°	543.1	554.1	538.4	530.7	617.7	684.4	747.1	733.8	768.4	751.1	638.4
22.5°	616.9	596.1	556.5	531.8	596.7	683.6	766.3	822.3	816.2	773.7	701.2
25°	708.0	695.4	647.9	604.3	610.1	678.9	826.7	908.9	926.8	908.7	760.8
27.5°	830.9	828.0	730.9	712.0	655.8	658.1	836.2	1018.2	977.5	949.1	830.4
30°	991.4	968.5	853.2	828.6	745.6	704.9	893.9	1112.4	1082.5	1043.9	895.8
32.5°	1163.9	1167.3	1020.3	938.9	872.2	823.8	871.1	1156.6	1212.5	1181.3	977.5
35°	1359.8	1375.1	1195.2	1099.6	969.8	898.7	969.3	1292.1	1392.4	1310.2	1087.0
37.5°	1661.6	1661.1	1451.0	1260.6	1166.3	1089.1	1132.9	1415.2	1613.5	1498.0	1283.4
40°	1927.1	1869.3	1673.9	1455.2	1308.1	1287.1	1255.3	1583.8	1849.6	1780.0	1458.0
42.5°	2125.4	2084.7	1848.6	1678.4	1496.1	1429.4	1418.1	1831.0	2198.1	2100.7	1707.3
45°	2362.5	2229.1	2055.2	1901.9	1716.2	1696.8	1670.2	2081.8	2603.6	2384.0	1923.9
47.5°	2575.0	2449.4	2285.0	2088.1	1874.8	2035.0	1933.1	2302.1	2898.5	2692.4	2162.9
50°	2753.8	2620.4	2436.3	2286.3	2195.0	2303.7	2133.8	2483.6	3217.1	3050.0	2386.4
52.5°	2844.9	2693.9	2551.6	2458.9	2514.8	2490.4	2405.8	2703.4	3488.6	3363.6	2584.4
55°	2770.1	2622.5	2562.9	2608.8	2778.8	2708.1	2714.9	3044.0	3744.9	3572.6	2756.7
57.5°	2438.1	2303.4	2329.9	2455.7	2781.4	2966.3	3067.4	3374.9	3950.5	3833.2	3022.5
60°	1844.4	1735.9	1834.1	2057.3	2519.8	2914.8	3317.4	3705.8	4244.4	4207.7	3424.8
62.5°	1126.4	1067.5	1206.7	1485.1	2008.0	2662.4	3463.1	4147.0	4558.8	4597.9	3851.5
65°	574.6	548.1	664.2	908.9	1356.7	2187.1	3357.8	4421.2	4883.6	5028.1	4258.3
67.5°	361.9	344.8	406.8	554.4	800.5	1426.5	2940.0	4660.9	5113.2	5227.4	4394.1
70°	250.8	240.0	293.6	380.5	505.0	768.4	2182.9	4437.2	4931.2	4936.4	4065.6
72.5°	159.1	150.7	203.0	281.8	372.7	396.8	1251.4	3481.8	4221.0	4172.5	3292.4
75°	103.2	99.0	128.9	206.4	286.3	244.8	618.5	2349.4	3026.7	2950.5	2186.8
77.5°	74.1	71.4	86.4	137.9	203.8	171.2	277.3	1400.3	1735.4	1568.9	1061.5
80°	44.6	44.4	62.5	86.4	145.0	120.8	128.2	635.8	672.8	548.6	324.3
82.5°	22.3	23.1	34.9	55.7	93.2	79.0	58.6	211.7	180.7	133.1	65.7
85°	5.3	6.6	18.4	38.3	46.7	31.5	27.8	55.4	49.6	37.6	19.2
87.5°	0.0	0.0	5.8	9.2	12.6	5.3	9.5	10.5	13.4	10.5	3.9
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°	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6
2.5°	221.1	218.0	198.8	193.8	193.3	187.8	189.1	183.8	184.1	195.9	195.9
5°	281.8	263.4	245.0	228.7	217.7	202.0	196.2	193.8	191.7	196.4	199.3
7.5°	330.9	303.8	270.8	235.3	202.5	179.9	176.7	171.0	168.9	173.6	177.3
10°	352.7	319.1	273.6	221.9	191.2	172.8	157.6	149.4	147.9	147.6	148.9
12.5°	398.9	357.2	276.8	216.9	183.6	163.3	146.0	132.4	119.8	121.1	119.8
15°	435.9	386.6	276.8	204.8	165.2	145.0	114.5	107.7	105.8	108.7	106.4
17.5°	491.9	415.7	262.9	183.3	149.4	112.7	101.1	100.6	104.3	108.5	105.8
20°	525.5	419.7	239.5	158.6	122.6	97.7	93.5	89.3	94.5	98.0	96.6
22.5°	560.4	419.9	216.1	145.5	98.7	89.0	82.2	78.8	79.6	82.7	83.2
25°	575.4	409.7	194.3	128.2	89.6	79.6	72.5	68.8	67.5	69.1	68.5
27.5°	616.1	390.0	170.7	109.2	85.1	70.6	64.1	59.6	55.7	58.3	58.8
30°	621.9	383.7	157.8	97.2	79.3	62.5	56.7	52.0	49.1	52.8	52.8
32.5°	640.3	349.0	151.3	92.2	73.3	57.8	49.9	46.5	46.0	48.3	48.6
35°	668.6	333.8	141.6	88.2	67.8	52.3	44.9	43.3	42.8	44.6	44.6
37.5°	764.7	314.9	130.8	84.8	63.0	49.4	43.6	41.0	41.2	42.8	43.9
40°	828.6	317.2	114.8	80.6	57.5	46.7	41.0	39.1	38.9	39.7	40.4
42.5°	947.0	319.1	107.7	76.2	53.3	43.6	38.3	37.0	36.0	36.8	37.6
45°	1079.4	328.8	104.0	72.5	50.9	41.8	36.0	35.2	32.8	33.4	34.4
47.5°	1207.0	364.2	99.5	67.2	48.8	40.7	33.6	31.8	30.2	29.9	31.0
50°	1352.0	398.7	94.5	61.5	46.7	39.1	31.3	28.4	27.3	27.3	28.1
52.5°	1481.7	431.5	89.8	57.5	45.2	36.2	29.2	26.3	25.5	25.5	26.5
55°	1618.2	465.9	85.6	53.8	43.1	33.4	27.3	24.7	24.4	23.9	24.7
57.5°	1859.3	541.0	80.4	50.7	40.2	31.0	25.7	23.1	22.6	21.8	22.6
60°	2210.4	656.3	73.5	47.5	36.8	29.4	24.4	21.3	20.5	19.2	19.4
62.5°	2553.7	749.5	65.7	43.6	33.6	27.8	22.3	19.2	17.9	16.3	16.5
65°	2847.8	786.3	57.3	38.9	30.5	24.2	19.4	16.8	15.0	12.9	12.6
67.5°	2882.5	694.4	49.1	34.4	27.3	20.5	16.5	15.0	12.1	10.2	9.7
70°	2594.1	517.4	41.0	30.5	23.6	17.3	14.2	13.1	11.3	9.7	8.9
72.5°	2065.7	381.8	34.4	27.0	20.7	14.7	12.1	12.3	11.3	9.5	8.4
75°	1366.1	218.5	28.1	22.6	17.3	11.8	11.0	11.0	10.8	8.9	7.9
77.5°	657.3	94.3	21.5	17.9	13.9	8.9	10.0	10.0	10.2	8.1	6.6
80°	186.5	28.4	13.4	12.1	10.2	6.0	7.9	7.6	6.8	4.7	2.9
82.5°	33.4	11.0	6.0	6.3	5.8	2.4	4.5	4.2	3.4	1.8	0.3
85°	9.2	4.2	3.4	3.7	2.9	0.8	1.8	2.4	1.8	1.1	0.0
87.5°	2.4	1.8	2.4	2.6	2.1	0.3	0.8	0.3	0.8	0.3	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)