

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: P366840

Luminaire Tested: **MSA-SA1B-760-U-T4W**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366840
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1B-760-U-T4W
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5135 lumens
Efficiency: N/A
Efficacy: 116.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

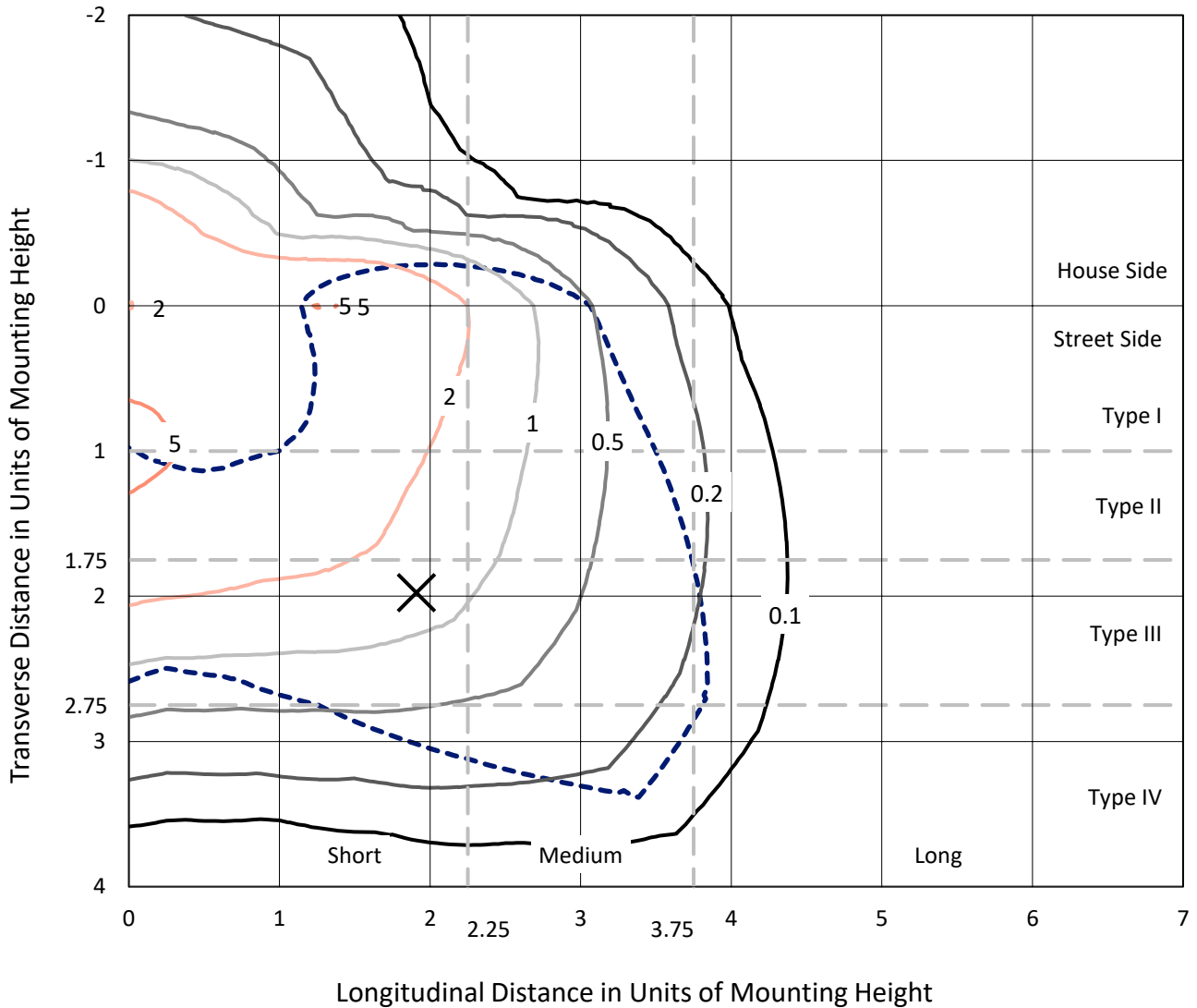
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

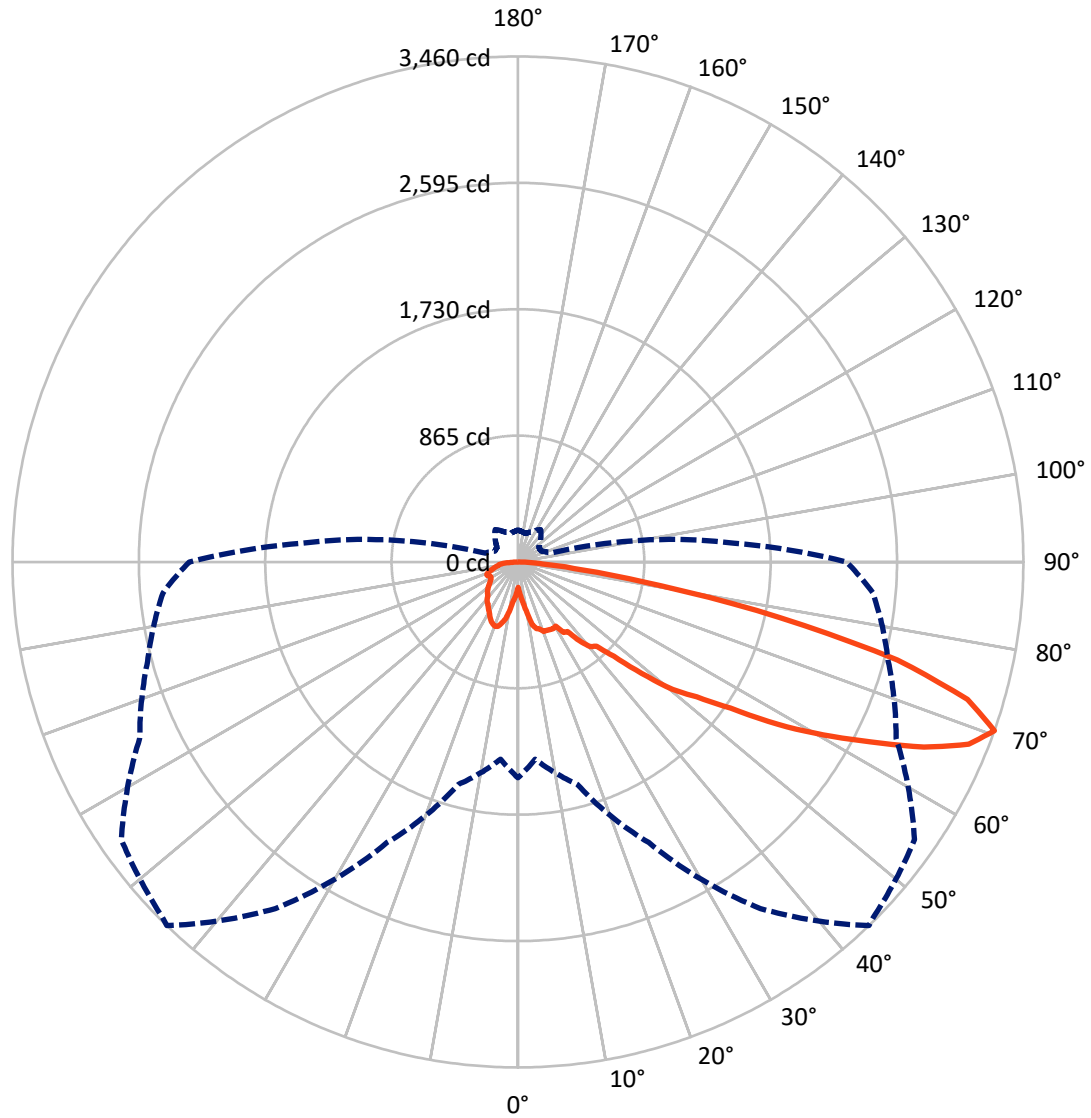
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.2 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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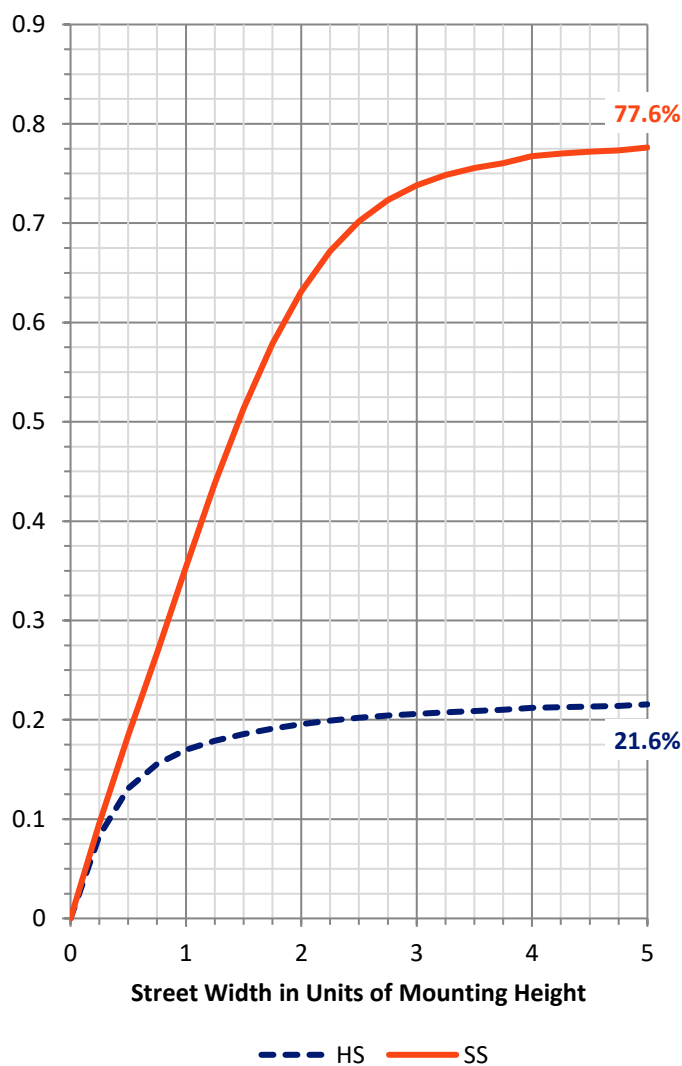
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1133.0	0.0	1133.0
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	4002.0	0.0	4002.0
	% Fixture	77.9	0.0	77.9
Total	Lumens	5135.0	0.0	5135.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	27.4	0.5
10°-20°	126.0	2.5
20°-30°	235.5	4.6
30°-40°	378.0	7.4
40°-50°	638.1	12.4
50°-60°	1137.0	22.1
60°-70°	1555.3	30.3
70°-80°	914.6	17.8
80°-90°	123.1	2.4
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°	5135.0	100.0
0°-180°	5135.0	100.0

Coefficient of Utilization



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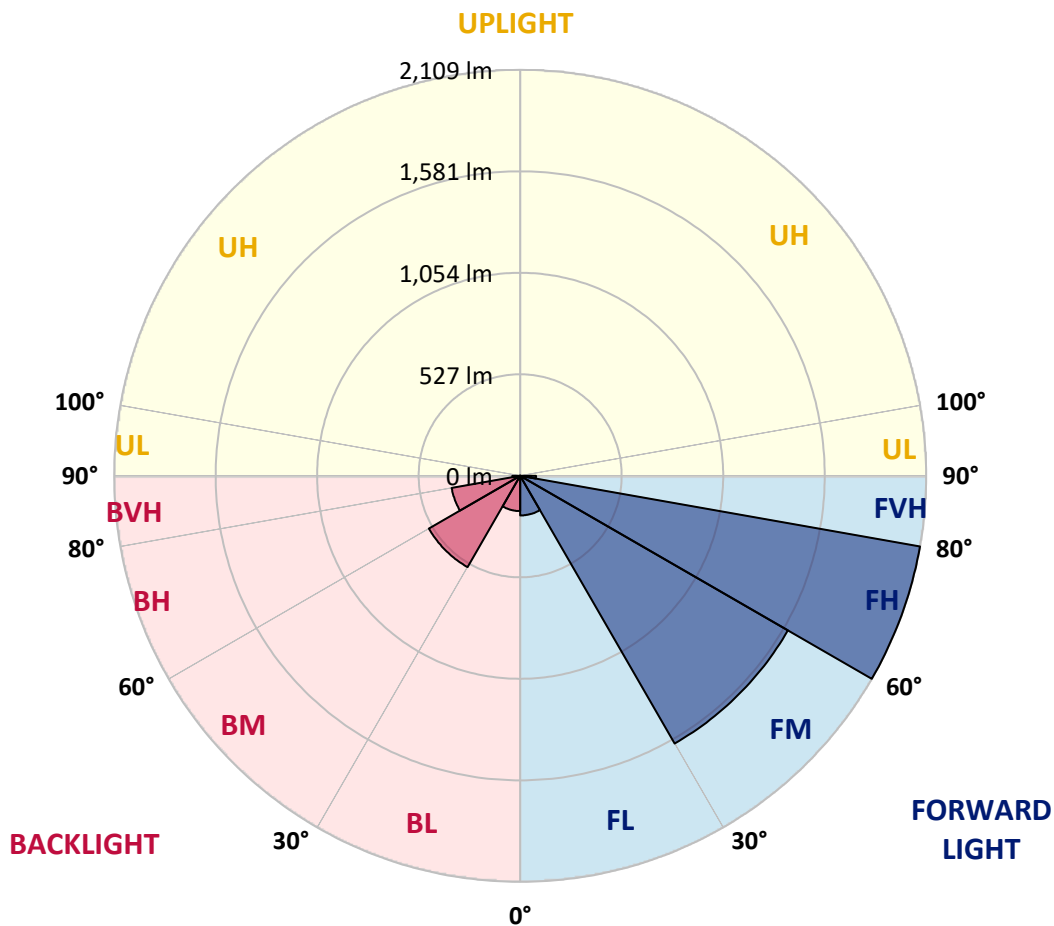
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	205.8	4.0			
FM (30°-60°)	1605.6	31.3			
FH (60°-80°)	2108.6	41.1			G2/5000
FVH (80°-90°)	82.1	1.6			G1/100
BL (0°-30°)	183.1	3.6	B1/500		
BM (30°-60°)	547.5	10.7	B1/1000		
BH (60°-80°)	361.3	7.0	B1/500		G1/500
BVH (80°-90°)	41.1	0.8			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	174.5	174.5	174.5	174.5	174.5	174.5	174.5	174.5	174.5	174.5	174.5
2.5°	211.8	207.6	197.5	200.9	205.1	206.8	206.3	205.9	199.4	197.1	208.7
5°	287.8	278.6	271.2	268.2	258.6	251.0	246.3	258.6	256.7	259.8	267.8
7.5°	359.4	353.5	336.9	331.0	311.2	298.1	296.7	306.3	308.9	303.8	317.5
10°	405.5	395.4	392.0	377.9	364.3	362.1	360.9	356.5	350.4	349.9	337.7
12.5°	441.3	446.6	449.3	433.1	433.5	441.1	437.1	419.2	408.9	390.8	392.3
15°	505.5	513.1	491.4	481.1	461.3	472.7	471.2	456.3	454.8	443.0	429.3
17.5°	561.5	564.9	528.7	505.1	498.4	481.9	486.4	486.8	467.4	488.5	476.3
20°	566.2	578.2	536.5	489.5	509.7	507.6	508.3	504.1	478.6	513.3	508.7
22.5°	588.9	570.6	533.1	498.8	504.1	507.2	510.2	505.1	503.6	523.0	537.1
25°	584.7	578.8	540.9	511.8	512.5	513.1	514.6	529.7	528.1	554.4	561.7
27.5°	624.1	615.0	543.2	536.1	519.6	516.1	506.0	537.5	562.2	561.5	602.2
30°	699.0	689.8	597.1	576.3	546.6	510.0	529.3	571.4	590.8	597.3	648.9
32.5°	816.1	831.2	703.2	619.2	582.4	574.4	572.3	568.1	616.1	648.3	695.2
35°	984.1	972.1	828.3	711.2	620.1	585.7	590.4	616.1	673.1	694.0	737.3
37.5°	1176.5	1151.7	988.5	815.5	728.7	685.8	670.4	695.2	707.9	724.3	812.9
40°	1372.2	1311.5	1145.8	952.5	794.0	761.6	748.1	717.6	747.2	780.5	893.2
42.5°	1561.0	1514.1	1317.0	1116.1	903.9	788.3	780.9	751.0	843.0	878.2	1009.0
45°	1758.9	1650.1	1492.4	1300.8	1064.5	919.5	908.5	854.8	972.7	1046.0	1172.3
47.5°	1892.0	1791.1	1653.0	1450.7	1199.1	1138.9	1118.0	1026.2	1133.2	1228.3	1424.8
50°	2017.9	1914.1	1769.0	1614.7	1442.7	1373.4	1329.0	1176.1	1333.0	1488.0	1748.4
52.5°	2198.1	2105.3	1903.8	1780.0	1704.4	1534.1	1501.0	1417.0	1566.7	1775.8	2102.1
55°	2390.8	2264.2	2081.7	2013.1	1982.5	1764.4	1737.5	1684.0	1877.9	2070.3	2446.0
57.5°	2475.8	2343.8	2243.2	2202.1	2199.6	2099.2	2068.2	2031.0	2196.0	2323.0	2769.6
60°	2543.4	2401.7	2361.5	2384.5	2467.8	2401.7	2361.5	2328.7	2455.0	2572.7	3033.6
62.5°	2531.0	2388.9	2409.5	2479.4	2692.3	2711.7	2680.7	2601.1	2711.7	2777.4	3185.0
65°	2330.6	2199.2	2319.4	2485.3	2900.9	3055.7	3054.0	2845.8	2884.1	2884.1	3169.0
67.5°	1979.4	1843.4	2040.2	2433.3	3045.2	3328.4	3328.8	3105.2	2899.9	2873.4	2921.4
70°	1478.1	1354.9	1576.2	2119.2	2896.3	3460.4	3441.2	3314.5	2856.5	2624.7	2440.3
72.5°	882.8	803.2	1006.8	1542.7	2470.6	3217.6	3268.6	3073.4	2615.0	2182.8	1744.4
75°	400.9	366.4	473.1	886.2	1763.8	2683.9	2739.2	2593.8	2077.1	1569.9	1008.1
77.5°	171.6	162.3	206.5	393.1	972.5	1835.4	1948.8	1853.7	1407.3	912.3	445.9
80°	110.3	104.4	127.0	189.1	451.6	991.7	1089.4	1053.8	716.9	354.8	157.1
82.5°	65.9	64.0	84.9	118.7	246.3	436.5	491.8	504.9	297.7	159.2	89.9
85°	36.0	36.4	46.5	72.0	147.8	169.9	181.9	197.9	140.2	92.2	43.6
87.5°	12.0	13.9	18.7	29.3	52.6	48.0	48.2	56.0	59.2	38.3	13.9
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°	174.5	174.5	174.5	174.5	174.5	174.5	174.5	174.5	174.5	174.5	174.5
2.5°	210.5	206.8	197.1	197.7	201.3	202.1	203.2	197.1	195.8	207.4	208.4
5°	269.1	256.7	251.0	249.1	243.6	241.7	251.8	256.4	261.1	270.1	274.6
7.5°	316.0	302.1	291.8	282.3	274.3	269.7	286.8	299.8	307.8	326.4	334.8
10°	337.5	325.5	321.7	314.1	320.2	334.1	337.3	337.7	355.4	355.0	358.6
12.5°	380.3	372.5	360.0	362.8	378.8	393.1	389.1	395.2	401.5	416.7	409.7
15°	419.2	417.1	405.5	407.4	410.6	428.5	430.8	436.9	446.6	458.6	450.4
17.5°	467.2	466.4	438.2	435.6	443.0	460.5	455.0	444.3	476.3	489.1	485.7
20°	499.8	493.5	457.3	446.6	465.3	467.6	461.3	444.3	472.1	500.1	507.6
22.5°	527.0	519.6	482.4	461.3	457.5	458.6	458.6	455.4	469.1	492.1	491.8
25°	548.9	555.9	508.5	488.3	468.1	442.8	439.6	442.4	450.2	494.4	492.9
27.5°	603.9	584.7	517.3	502.2	460.7	420.9	429.5	433.7	436.3	484.7	492.7
30°	639.6	645.5	548.9	510.4	449.9	396.5	399.4	411.6	426.4	483.6	485.9
32.5°	687.9	675.2	598.2	496.7	421.3	381.7	376.3	392.7	414.6	466.6	472.9
35°	732.7	747.7	619.0	494.2	401.3	359.6	365.5	371.2	393.9	447.6	455.0
37.5°	838.0	803.9	677.5	481.9	384.7	348.5	342.1	350.8	370.1	411.6	428.7
40°	918.0	920.1	690.2	466.6	352.9	332.5	319.0	327.6	335.8	368.9	376.3
42.5°	1068.1	1022.2	721.1	432.9	332.9	308.5	300.9	304.7	305.9	319.8	332.0
45°	1259.1	1151.5	733.3	387.6	306.6	298.6	283.2	281.3	274.3	276.2	287.0
47.5°	1523.3	1353.2	724.5	339.4	283.2	285.7	263.6	255.0	245.3	247.6	257.7
50°	1865.0	1610.9	723.9	298.6	267.2	268.9	250.8	235.2	225.5	230.3	239.2
52.5°	2248.5	1869.5	726.8	270.6	249.7	248.9	242.3	223.4	215.6	220.7	230.8
55°	2615.2	2091.8	748.7	252.9	231.6	233.1	235.6	219.6	211.0	215.6	226.1
57.5°	2934.4	2267.4	740.5	234.1	214.8	221.5	228.2	214.3	207.8	214.5	225.1
60°	3157.6	2348.9	675.7	216.2	202.3	211.6	224.7	213.7	212.9	227.4	240.0
62.5°	3239.1	2318.8	549.3	202.1	195.0	210.3	232.9	227.6	228.4	246.3	263.8
65°	3120.1	2160.4	409.7	193.1	189.3	216.4	251.8	235.8	224.2	239.0	255.0
67.5°	2781.8	1878.9	299.4	185.3	182.8	226.1	269.3	235.0	213.5	228.4	241.5
70°	2250.6	1483.1	231.8	175.4	174.1	219.6	271.0	228.7	201.9	211.6	219.0
72.5°	1542.1	1015.5	192.0	165.9	159.2	194.5	257.3	214.5	188.0	193.7	199.8
75°	861.8	570.0	161.5	154.1	139.4	173.3	241.3	206.1	177.7	179.4	187.8
77.5°	386.8	246.6	137.1	138.5	121.5	153.3	220.4	192.7	161.9	158.1	166.5
80°	146.3	120.2	111.2	117.1	102.1	132.9	198.8	180.4	145.3	140.4	145.3
82.5°	84.9	72.9	82.5	90.1	81.1	122.1	189.7	169.3	128.0	115.8	120.0
85°	39.4	37.7	49.5	58.5	56.6	95.2	162.3	127.4	91.2	77.1	85.3
87.5°	10.3	11.6	17.5	20.6	21.1	32.6	62.5	47.4	35.6	27.0	25.9
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)