

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: P366730

Luminaire Tested: **MSA-SA1A-830-U-T4W**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366730
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-SA1A-830-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: 3256 lumens
Efficiency: N/A
Efficacy: 95.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G1

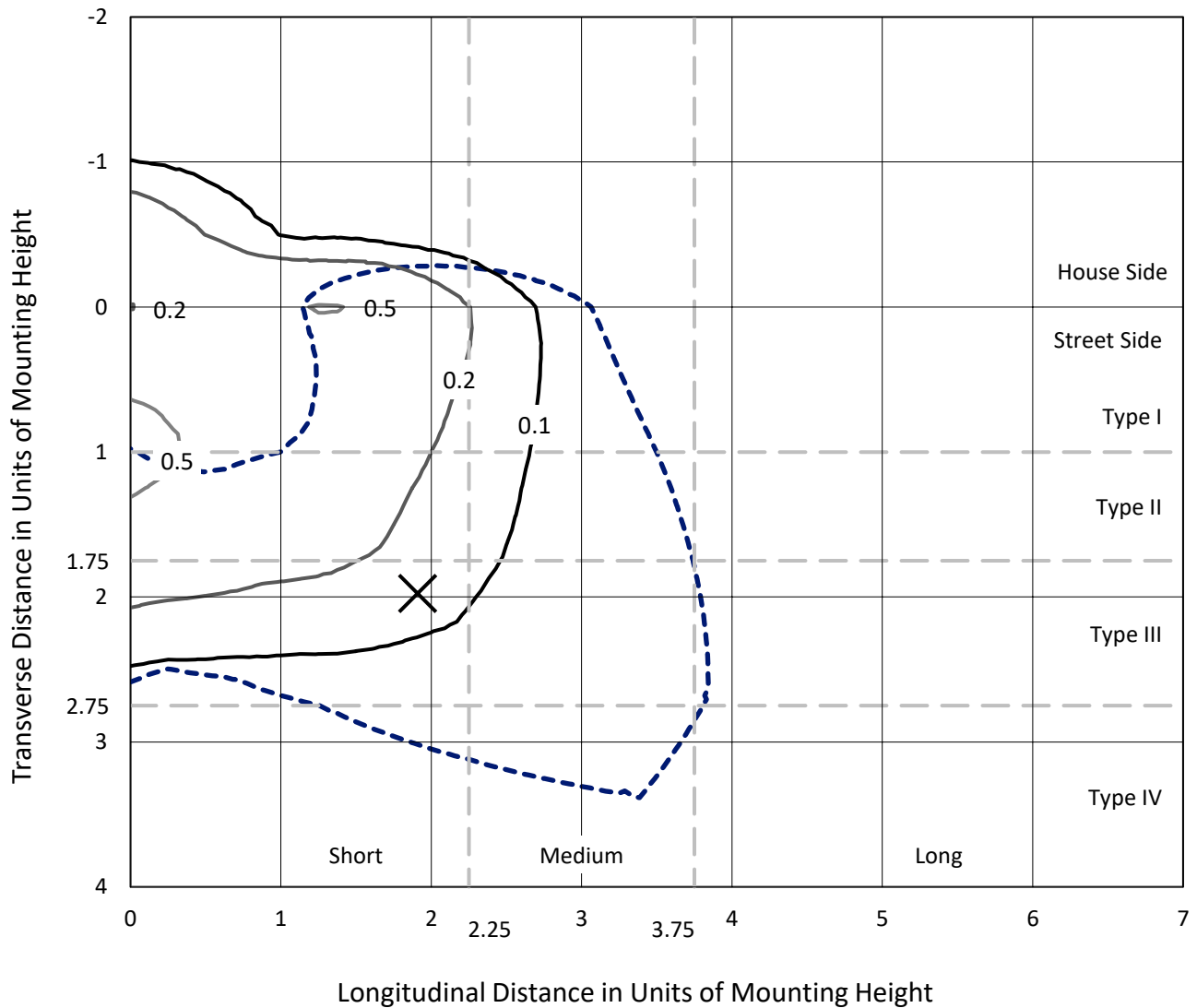
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

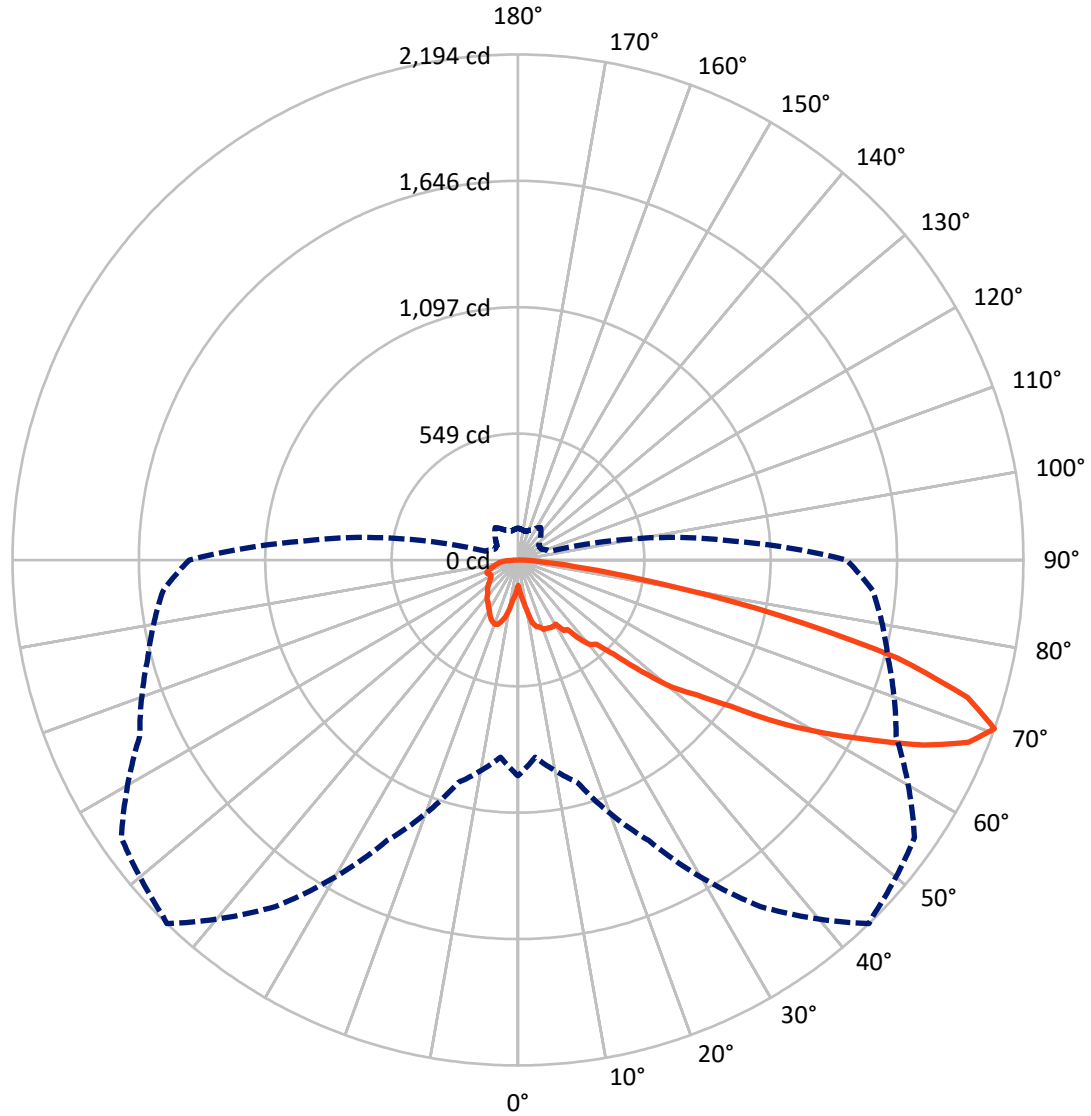
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.6 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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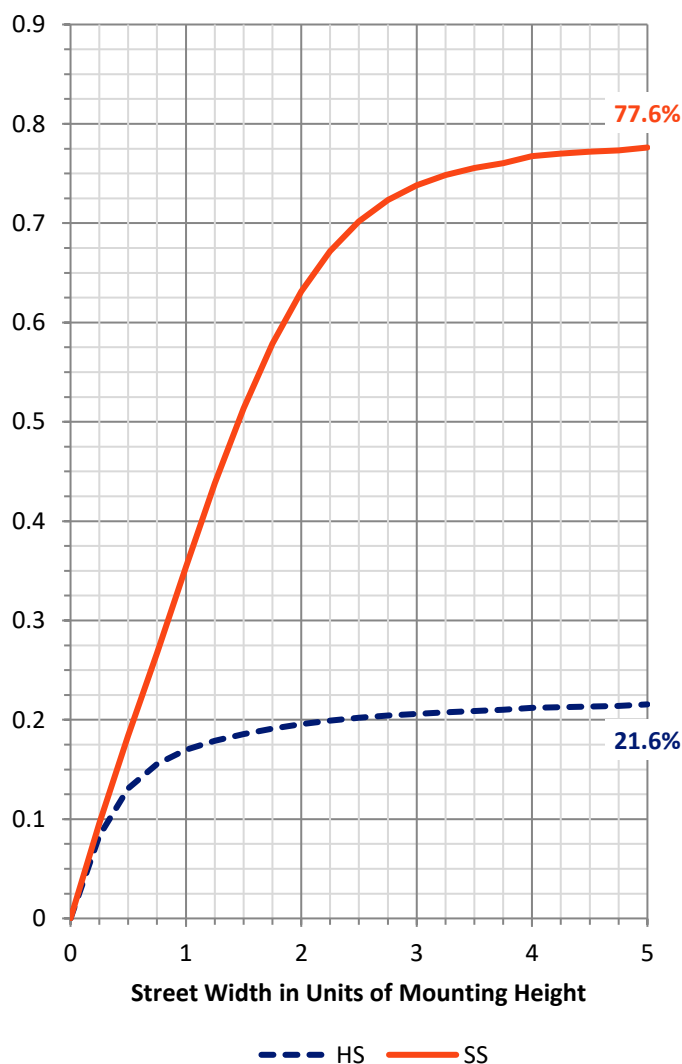
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	718.4	0.0	718.4
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	2537.6	0.0	2537.6
	% Fixture	77.9	0.0	77.9
Total	Lumens	3256.0	0.0	3256.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	17.4	0.5
10°-20°	79.9	2.5
20°-30°	149.3	4.6
30°-40°	239.7	7.4
40°-50°	404.6	12.4
50°-60°	721.0	22.1
60°-70°	986.2	30.3
70°-80°	579.9	17.8
80°-90°	78.1	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°	3256.0	100.0
0°-180°	3256.0	100.0

Coefficient of Utilization



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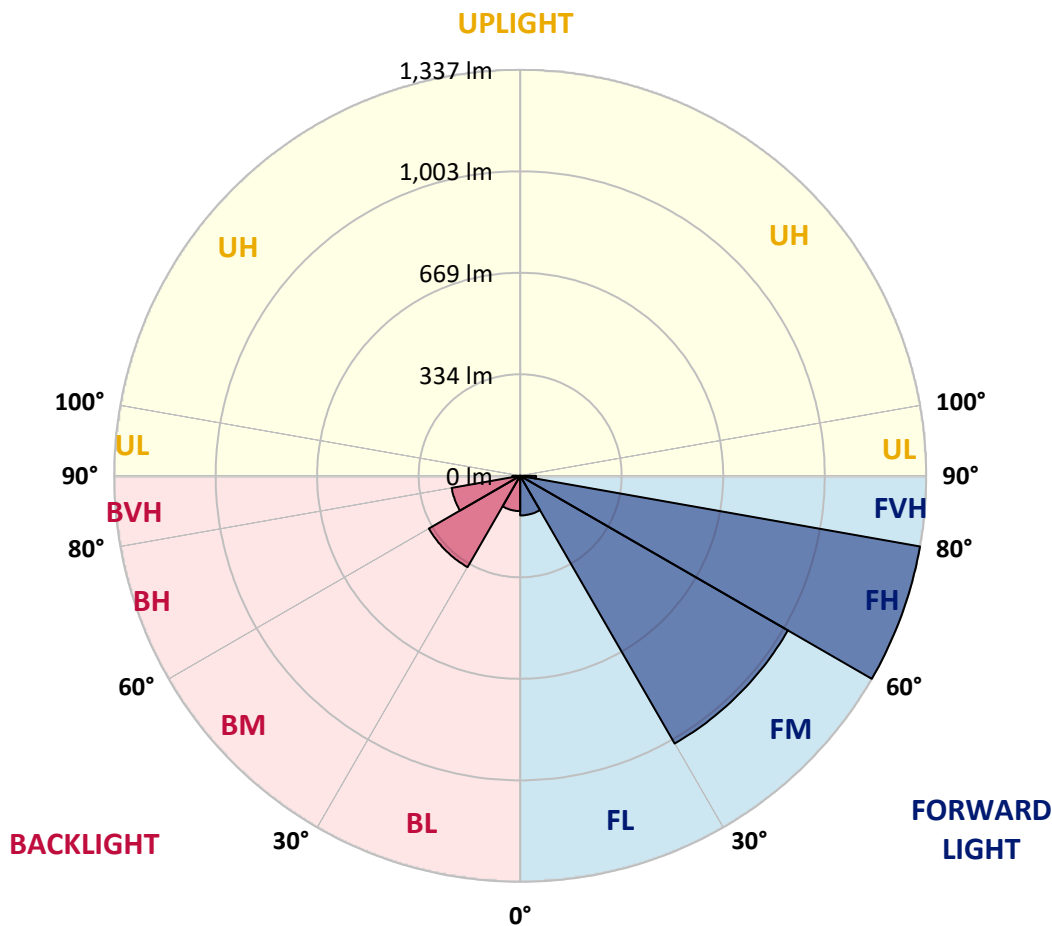
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	130.5	4.0			
FM (30°-60°)	1018.1	31.3			
FH (60°-80°)	1337.0	41.1			G1/1800
FVH (80°-90°)	52.0	1.6			G1/100
BL (0°-30°)	116.1	3.6	B1/500		
BM (30°-60°)	347.2	10.7	B1/1000		
BH (60°-80°)	229.1	7.0	B1/500		G1/500
BVH (80°-90°)	26.0	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-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7
2.5°	134.3	131.6	125.2	127.4	130.0	131.1	130.8	130.6	126.4	125.0	132.3
5°	182.5	176.6	172.0	170.1	163.9	159.1	156.2	163.9	162.7	164.7	169.8
7.5°	227.9	224.2	213.6	209.9	197.3	189.0	188.1	194.2	195.9	192.6	201.3
10°	257.1	250.7	248.6	239.6	231.0	229.6	228.8	226.0	222.2	221.9	214.1
12.5°	279.8	283.2	284.9	274.6	274.9	279.7	277.2	265.8	259.3	247.8	248.7
15°	320.5	325.4	311.6	305.1	292.5	299.7	298.8	289.3	288.4	280.9	272.2
17.5°	356.1	358.2	335.2	320.3	316.0	305.6	308.4	308.7	296.4	309.7	302.0
20°	359.0	366.6	340.2	310.4	323.2	321.9	322.3	319.6	303.5	325.5	322.5
22.5°	373.4	361.8	338.0	316.3	319.6	321.6	323.5	320.3	319.3	331.6	340.6
25°	370.7	367.0	343.0	324.6	325.0	325.4	326.3	335.9	334.8	351.5	356.2
27.5°	395.7	390.0	344.4	339.9	329.5	327.2	320.8	340.8	356.5	356.1	381.8
30°	443.2	437.4	378.6	365.4	346.6	323.3	335.6	362.3	374.6	378.8	411.5
32.5°	517.5	527.1	445.9	392.6	369.3	364.2	362.9	360.2	390.6	411.1	440.8
35°	624.0	616.4	525.2	451.0	393.2	371.4	374.3	390.6	426.8	440.0	467.5
37.5°	746.0	730.3	626.8	517.1	462.1	434.8	425.1	440.8	448.8	459.3	515.5
40°	870.1	831.6	726.5	604.0	503.4	482.9	474.3	455.0	473.8	494.9	566.3
42.5°	989.8	960.0	835.1	707.7	573.1	499.8	495.2	476.2	534.6	556.8	639.8
45°	1115.3	1046.3	946.3	824.8	675.0	583.0	576.1	542.0	616.8	663.3	743.4
47.5°	1199.7	1135.7	1048.1	919.9	760.3	722.1	708.9	650.7	718.5	778.9	903.4
50°	1279.5	1213.7	1121.7	1023.9	914.8	870.9	842.7	745.8	845.2	943.5	1108.6
52.5°	1393.8	1334.9	1207.2	1128.7	1080.7	972.7	951.8	898.5	993.4	1126.0	1332.9
55°	1516.0	1435.7	1320.0	1276.4	1257.1	1118.8	1101.7	1067.8	1190.7	1312.8	1550.9
57.5°	1569.9	1486.2	1422.4	1396.3	1394.7	1331.0	1311.4	1287.8	1392.5	1473.0	1756.1
60°	1612.7	1522.9	1497.4	1511.9	1564.8	1522.9	1497.4	1476.6	1556.7	1631.3	1923.5
62.5°	1604.9	1514.7	1527.8	1572.2	1707.1	1719.4	1699.8	1649.3	1719.4	1761.1	2019.5
65°	1477.8	1394.5	1470.7	1575.9	1839.4	1937.6	1936.5	1804.5	1828.8	1828.8	2009.4
67.5°	1255.1	1168.8	1293.7	1542.9	1930.9	2110.4	2110.7	1968.9	1838.8	1821.9	1852.4
70°	937.2	859.1	999.4	1343.7	1836.5	2194.2	2182.0	2101.6	1811.3	1664.3	1547.3
72.5°	559.8	509.3	638.4	978.2	1566.5	2040.2	2072.5	1948.8	1658.1	1384.0	1106.1
75°	254.2	232.3	300.0	561.9	1118.4	1701.8	1736.9	1644.6	1317.0	995.4	639.2
77.5°	108.8	102.9	131.0	249.3	616.7	1163.8	1235.7	1175.4	892.3	578.5	282.8
80°	70.0	66.2	80.5	119.9	286.4	628.8	690.8	668.2	454.6	225.0	99.6
82.5°	41.8	40.6	53.8	75.3	156.2	276.8	311.9	320.1	188.8	100.9	57.0
85°	22.8	23.1	29.5	45.7	93.7	107.7	115.3	125.5	88.9	58.5	27.6
87.5°	7.6	8.8	11.9	18.6	33.4	30.4	30.6	35.5	37.5	24.3	8.8
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°	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7
2.5°	133.5	131.1	125.0	125.4	127.6	128.2	128.8	125.0	124.2	131.5	132.2
5°	170.6	162.7	159.1	157.9	154.5	153.3	159.7	162.6	165.5	171.3	174.1
7.5°	200.4	191.6	185.0	179.0	174.0	171.0	181.8	190.1	195.2	206.9	212.3
10°	214.0	206.4	204.0	199.2	203.1	211.9	213.9	214.1	225.4	225.1	227.4
12.5°	241.1	236.2	228.3	230.0	240.2	249.3	246.7	250.6	254.6	264.2	259.8
15°	265.8	264.5	257.1	258.3	260.3	271.7	273.2	277.0	283.2	290.8	285.6
17.5°	296.2	295.7	277.8	276.2	280.9	292.0	288.5	281.7	302.0	310.1	308.0
20°	316.9	312.9	290.0	283.2	295.0	296.5	292.5	281.7	299.3	317.1	321.9
22.5°	334.2	329.5	305.9	292.5	290.1	290.8	290.8	288.8	297.4	312.0	311.9
25°	348.0	352.5	322.4	309.6	296.8	280.8	278.8	280.5	285.4	313.5	312.5
27.5°	382.9	370.7	328.0	318.4	292.1	266.9	272.4	275.0	276.6	307.3	312.4
30°	405.6	409.3	348.0	323.6	285.3	251.4	253.3	261.0	270.3	306.7	308.1
32.5°	436.2	428.2	379.3	314.9	267.1	242.0	238.6	249.0	262.9	295.8	299.9
35°	464.6	474.1	392.5	313.3	254.5	228.0	231.8	235.4	249.8	283.8	288.5
37.5°	531.4	509.7	429.6	305.6	243.9	221.0	216.9	222.4	234.7	261.0	271.8
40°	582.1	583.4	437.6	295.8	223.8	210.8	202.3	207.7	212.9	233.9	238.6
42.5°	677.3	648.2	457.3	274.5	211.1	195.6	190.8	193.2	194.0	202.8	210.5
45°	798.4	730.1	465.0	245.8	194.4	189.3	179.6	178.4	174.0	175.2	182.0
47.5°	965.9	858.0	459.4	215.2	179.6	181.2	167.1	161.7	155.5	157.0	163.4
50°	1182.6	1021.4	459.0	189.3	169.4	170.5	159.0	149.1	143.0	146.1	151.7
52.5°	1425.7	1185.4	460.9	171.6	158.3	157.8	153.7	141.6	136.7	139.9	146.3
55°	1658.3	1326.4	474.7	160.3	146.9	147.8	149.4	139.2	133.8	136.7	143.4
57.5°	1860.7	1437.7	469.5	148.5	136.2	140.4	144.7	135.9	131.8	136.0	142.7
60°	2002.2	1489.4	428.4	137.1	128.3	134.2	142.4	135.5	135.0	144.2	152.2
62.5°	2053.8	1470.3	348.3	128.2	123.6	133.4	147.7	144.3	144.9	156.2	167.3
65°	1978.4	1369.9	259.8	122.4	120.0	137.2	159.7	149.5	142.2	151.5	161.7
67.5°	1763.9	1191.4	189.8	117.5	115.9	143.4	170.8	149.0	135.4	144.9	153.1
70°	1427.0	940.4	147.0	111.2	110.4	139.2	171.8	145.0	128.0	134.2	138.8
72.5°	977.8	643.9	121.8	105.2	100.9	123.4	163.1	136.0	119.2	122.8	126.7
75°	546.4	361.4	102.4	97.7	88.4	109.9	153.0	130.7	112.7	113.7	119.1
77.5°	245.2	156.3	86.9	87.8	77.0	97.2	139.8	122.2	102.7	100.3	105.6
80°	92.8	76.2	70.5	74.2	64.7	84.2	126.0	114.4	92.1	89.0	92.1
82.5°	53.8	46.2	52.3	57.1	51.4	77.4	120.3	107.3	81.2	73.4	76.1
85°	25.0	23.9	31.4	37.1	35.9	60.3	102.9	80.8	57.8	48.9	54.1
87.5°	6.5	7.3	11.1	13.1	13.4	20.7	39.7	30.0	22.6	17.1	16.4
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)