

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: P366728

Luminaire Tested: **MSA-SA1A-830-U-T4FT**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366728
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1A-830-U-T4FT
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3219 lumens
Efficiency: N/A
Efficacy: 94.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G1

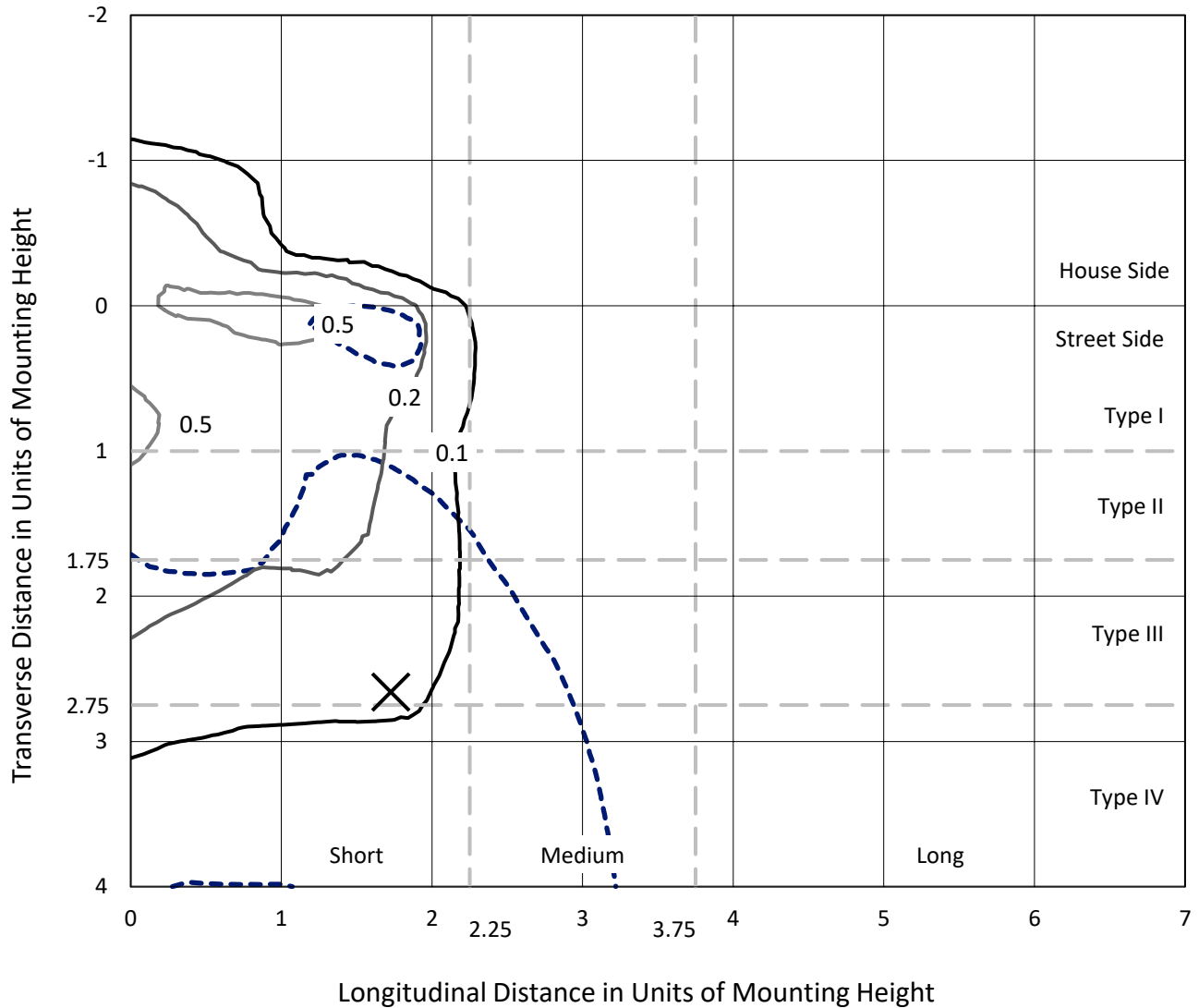
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

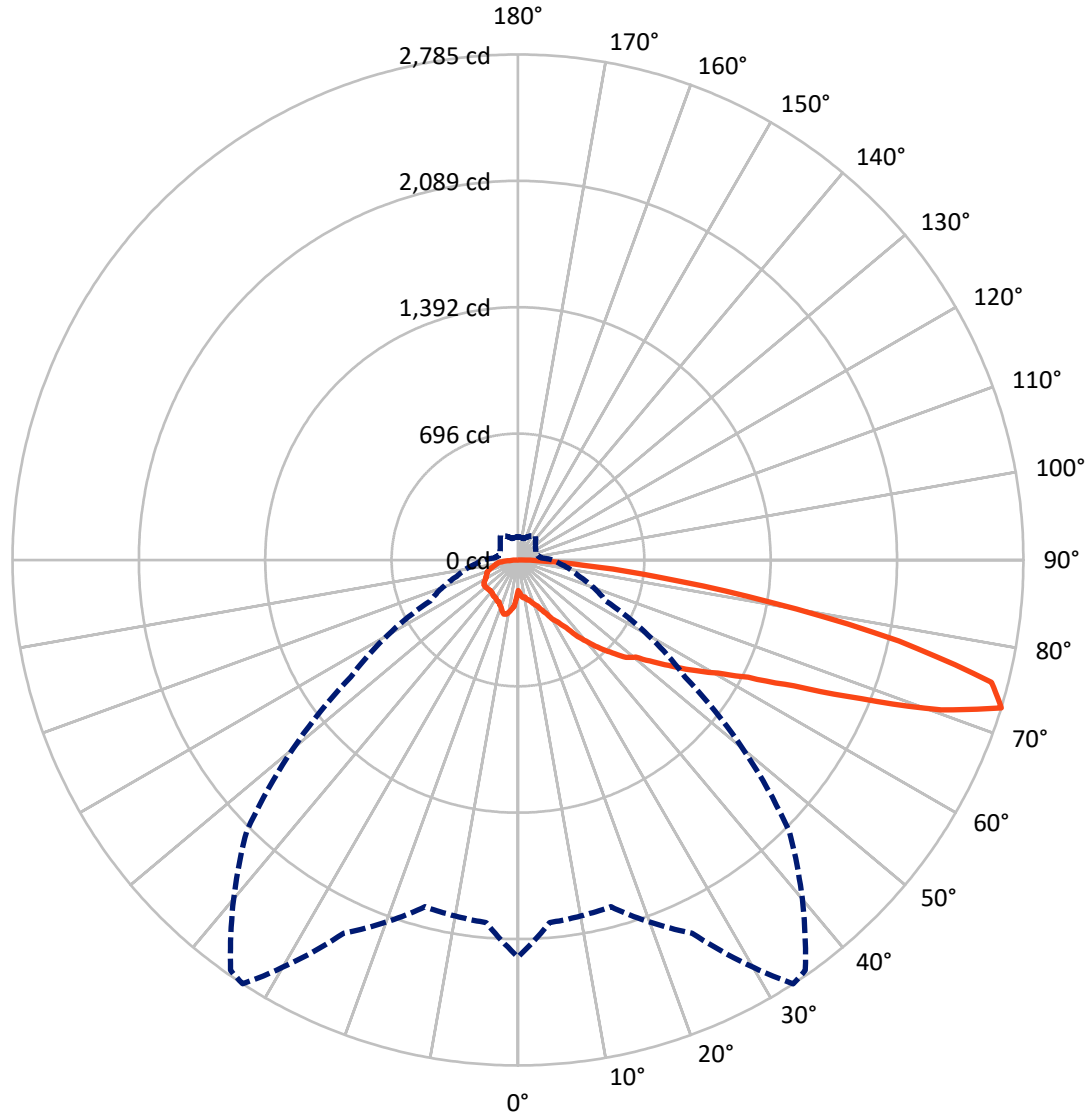
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.7 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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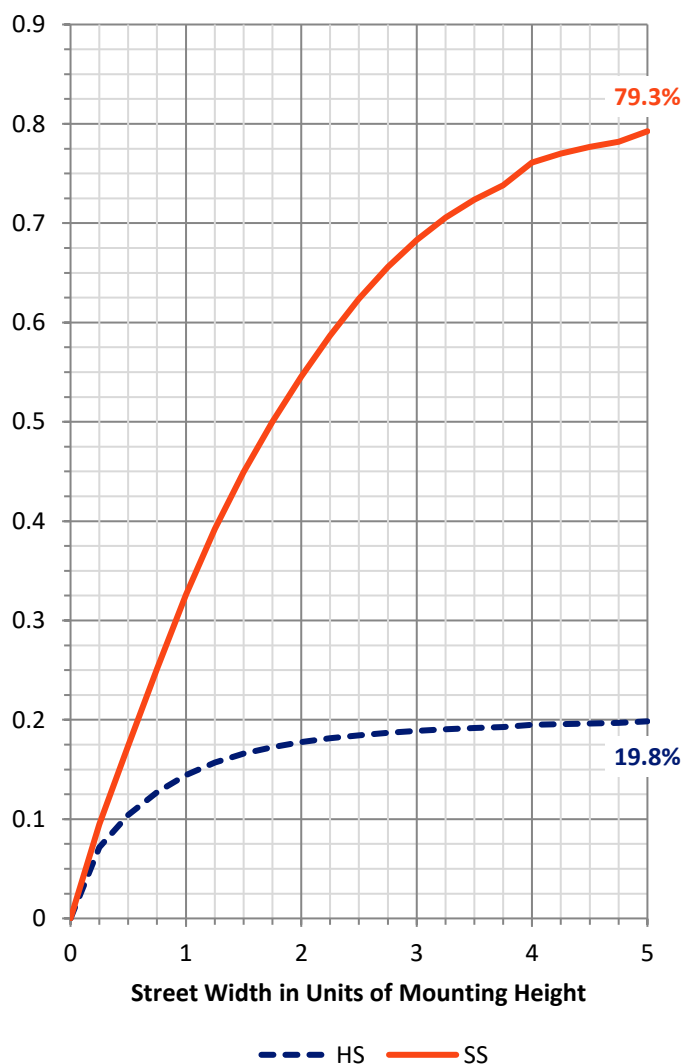
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	651.2	0.0	651.2
	% Fixture	20.2	0.0	20.2
Street Side	Lumens	2567.8	0.0	2567.8
	% Fixture	79.8	0.0	79.8
Total	Lumens	3219.0	0.0	3219.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.2	0.7
10°-20°	85.8	2.7
20°-30°	156.4	4.9
30°-40°	264.6	8.2
40°-50°	440.2	13.7
50°-60°	646.0	20.1
60°-70°	826.4	25.7
70°-80°	672.3	20.9
80°-90°	104.1	3.2
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°	3219.0	100.0
0°-180°	3219.0	100.0

Coefficient of Utilization



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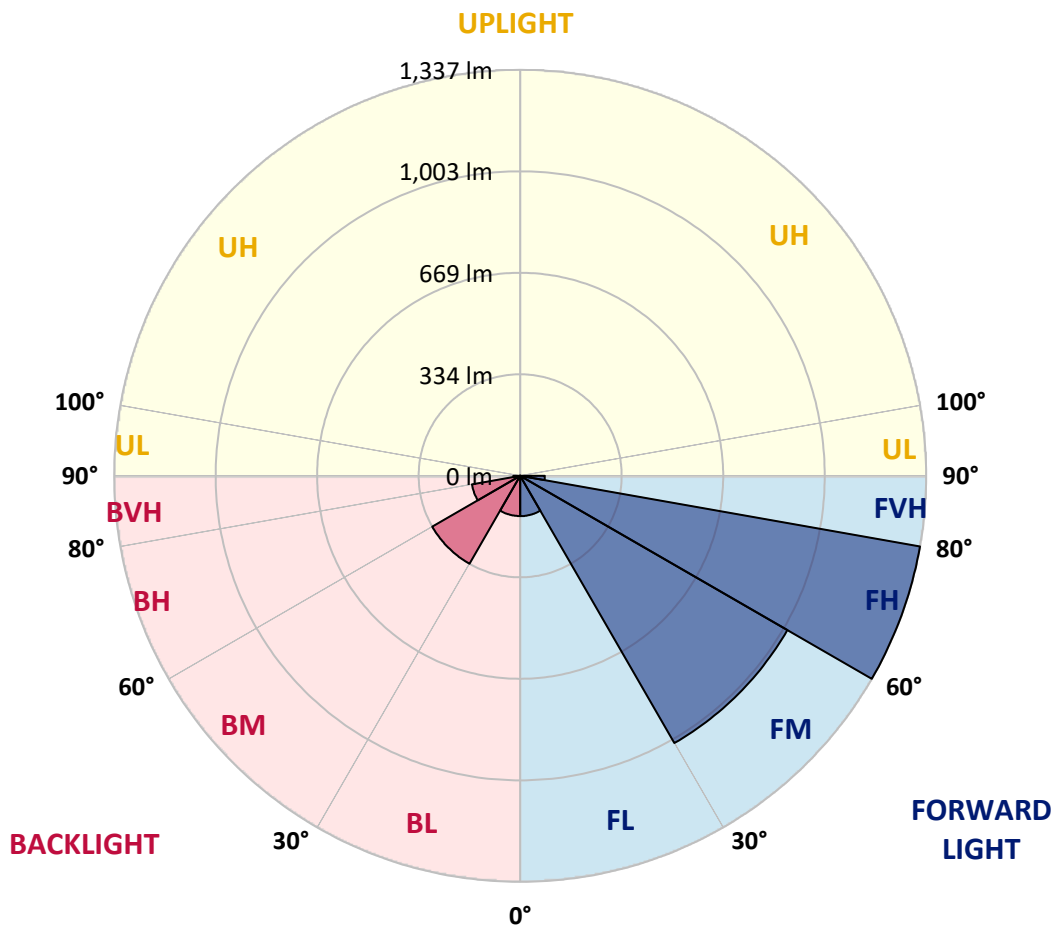
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	132.8	4.1			
FM (30°-60°)	1016.3	31.6			
FH (60°-80°)	1337.4	41.5			G1/1800
FVH (80°-90°)	81.3	2.5			G1/100
BL (0°-30°)	132.5	4.1	B1/500		
BM (30°-60°)	334.5	10.4	B1/1000		
BH (60°-80°)	161.4	5.0	B1/500		G1/500
BVH (80°-90°)	22.9	0.7			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°	33°	35°	45°	55°	65°	75°	85°
0°	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8
2.5°	191.4	185.4	175.5	175.2	180.7	181.9	185.5	185.8	187.1	184.9	200.2
5°	211.1	204.7	200.8	202.2	199.6	202.7	202.7	211.5	223.3	236.9	256.3
7.5°	215.8	211.1	206.7	210.1	210.6	207.7	210.5	231.2	252.4	266.0	297.0
10°	206.4	201.8	205.1	206.2	206.0	212.7	227.3	243.8	267.5	292.6	309.3
12.5°	204.7	208.1	209.7	211.5	224.2	226.2	248.2	265.3	289.1	311.1	354.5
15°	230.5	234.9	225.0	224.3	228.5	230.4	253.2	270.4	305.1	342.1	381.1
17.5°	267.2	268.8	251.1	242.0	245.0	246.5	256.5	278.2	299.5	367.9	416.5
20°	302.7	303.8	270.4	250.1	260.9	262.5	271.9	284.3	301.1	382.3	440.4
22.5°	340.0	333.2	296.6	270.9	277.2	277.6	283.1	289.9	313.8	380.0	469.5
25°	380.7	376.4	330.4	305.8	305.5	300.1	300.3	310.1	327.3	404.4	488.6
27.5°	434.8	435.3	368.4	355.2	334.5	330.9	312.9	331.0	350.7	404.6	529.9
30°	504.9	492.0	421.4	400.1	379.6	372.0	347.6	363.1	371.6	427.7	574.7
32.5°	561.9	558.2	476.7	444.4	411.0	419.8	392.9	379.2	394.6	467.5	642.7
35°	616.5	604.3	535.2	493.2	458.0	452.7	435.2	437.5	446.8	517.9	731.5
37.5°	698.0	691.3	618.0	550.7	534.3	512.5	501.4	508.5	501.2	582.4	864.7
40°	789.1	750.3	687.2	627.2	596.5	581.2	585.0	578.4	572.7	654.7	984.0
42.5°	876.3	841.0	733.1	706.1	666.1	672.5	651.3	655.9	671.8	757.4	1094.5
45°	971.2	895.0	781.9	758.1	729.4	737.5	754.5	749.4	775.5	878.5	1198.5
47.5°	1018.6	946.1	841.7	803.0	802.6	785.6	888.8	900.0	859.3	968.3	1304.1
50°	1064.3	993.0	886.2	860.0	841.0	877.3	1017.7	991.9	935.2	1071.2	1420.3
52.5°	1127.9	1046.5	937.2	909.3	932.8	966.4	1120.5	1115.4	1009.5	1177.1	1521.3
55°	1176.3	1094.2	1014.0	988.0	1032.9	1065.9	1225.2	1194.6	1073.2	1254.9	1585.2
57.5°	1261.3	1177.0	1127.3	1069.8	1150.4	1149.9	1326.2	1302.5	1141.3	1318.7	1611.0
60°	1396.3	1297.3	1245.4	1179.0	1265.4	1296.3	1441.5	1373.4	1189.6	1359.0	1564.5
62.5°	1585.8	1468.2	1384.0	1318.3	1423.6	1479.5	1584.0	1425.1	1192.6	1347.5	1442.3
65°	1820.1	1677.2	1566.8	1497.4	1671.2	1750.9	1756.3	1457.0	1164.3	1228.8	1185.4
67.5°	2048.7	1888.1	1772.8	1786.1	2039.9	2077.7	1943.0	1483.7	1012.2	986.7	823.1
70°	2199.2	2025.1	1948.3	2088.5	2474.2	2435.5	2094.3	1413.4	797.1	639.6	463.5
72.5°	2187.9	2005.6	1978.0	2268.3	2784.8	2760.6	2112.7	1124.0	533.9	349.7	231.2
75°	1782.5	1640.8	1703.5	2147.3	2695.3	2694.1	1834.3	695.7	273.9	179.6	146.1
77.5°	985.5	930.5	1114.9	1625.8	2146.1	2157.0	1239.4	315.5	147.7	127.3	110.0
80°	345.2	340.1	483.1	877.3	1411.8	1414.4	576.3	144.4	107.4	96.3	80.8
82.5°	126.2	125.1	200.3	407.6	777.3	775.6	218.6	89.9	79.6	68.1	53.3
85°	50.3	49.3	91.6	180.9	357.1	351.3	84.9	51.0	52.1	40.6	26.2
87.5°	13.9	14.4	31.1	56.6	109.4	101.4	21.4	17.2	21.1	16.6	8.3
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°	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8
2.5°	202.8	204.2	191.0	195.6	201.6	204.8	206.4	199.6	201.9	211.5	211.1
5°	260.3	254.9	249.8	255.1	251.6	246.6	254.7	254.3	259.5	264.7	265.9
7.5°	303.1	296.2	293.8	282.0	270.3	258.4	268.7	275.1	276.4	289.4	294.9
10°	318.6	316.0	316.9	301.4	299.9	301.1	291.6	281.4	287.6	282.3	286.3
12.5°	354.4	361.1	344.5	334.0	333.0	325.7	306.7	300.1	293.0	300.3	296.6
15°	383.1	395.5	377.8	359.2	338.3	326.9	310.7	300.6	295.9	297.5	293.0
17.5°	425.2	436.8	391.7	363.2	341.6	324.9	300.2	278.6	290.0	291.0	285.8
20°	453.1	453.9	396.3	353.3	333.8	304.9	280.8	261.9	275.1	288.6	294.5
22.5°	480.3	474.3	402.1	345.5	305.7	277.6	265.9	264.7	274.6	285.9	287.2
25°	500.8	501.7	405.4	342.5	289.1	250.9	250.9	259.6	268.3	295.3	293.9
27.5°	550.3	513.9	392.5	329.0	266.1	235.3	251.1	262.7	266.8	296.1	299.0
30°	586.4	562.6	395.1	305.9	242.9	227.9	240.9	255.5	266.9	300.7	299.7
32.5°	646.9	582.9	401.4	273.5	225.5	225.1	236.6	252.0	265.7	295.7	297.3
35°	713.8	642.7	383.9	248.8	221.4	223.5	238.4	244.5	260.7	293.6	295.1
37.5°	837.5	674.0	372.8	229.7	218.7	224.9	230.5	240.0	256.3	283.6	293.2
40°	910.2	738.3	331.7	218.6	213.1	223.8	226.6	234.6	243.4	271.6	277.8
42.5°	1005.8	758.6	296.6	206.3	210.3	219.4	227.8	229.8	235.7	252.7	263.9
45°	1085.5	773.9	259.3	196.4	200.8	229.2	229.7	228.8	227.7	234.0	243.2
47.5°	1168.1	814.7	225.0	185.5	197.2	237.2	230.6	222.1	217.7	218.5	227.0
50°	1259.1	844.4	200.7	176.5	198.0	237.2	235.2	215.3	206.4	204.2	213.1
52.5°	1339.3	847.8	182.3	169.3	194.7	229.0	238.2	211.0	196.2	190.7	199.1
55°	1382.9	803.9	168.9	162.8	186.2	221.7	236.6	208.6	183.7	179.6	187.1
57.5°	1382.0	731.0	157.6	153.7	176.4	211.4	227.7	195.5	176.1	173.7	181.1
60°	1332.2	645.5	148.9	146.2	166.4	196.4	211.7	187.0	168.8	167.6	175.6
62.5°	1219.2	557.3	140.5	138.3	157.0	185.9	204.0	177.5	161.2	161.0	168.7
65°	998.5	447.4	132.6	132.1	148.4	175.5	196.8	169.5	153.3	156.0	163.7
67.5°	688.0	314.3	124.2	125.8	140.3	165.5	191.4	164.1	145.0	150.5	157.4
70°	377.5	194.4	114.8	118.0	130.2	153.8	182.8	155.4	134.2	142.6	147.4
72.5°	192.0	129.7	103.2	108.3	117.8	136.7	166.8	142.9	122.6	125.8	128.3
75°	129.0	97.6	90.3	95.9	102.7	120.5	148.0	131.1	111.5	111.1	113.9
77.5°	97.5	76.3	76.7	83.1	87.5	105.9	133.0	121.3	102.2	101.2	105.4
80°	71.3	57.8	61.7	68.4	72.4	95.1	123.3	110.3	89.5	85.7	89.2
82.5°	47.3	41.0	45.7	52.3	55.6	79.5	111.9	93.6	72.9	63.4	64.0
85°	22.3	21.5	27.2	30.4	34.6	49.3	83.7	64.8	46.5	38.5	40.2
87.5°	5.1	6.8	8.9	8.8	10.3	13.2	26.0	18.2	13.5	9.2	6.1
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)