

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: P366726

Luminaire Tested: **MSA-SA1A-830-U-T3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366726  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1A-830-U-T3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3207 lumens  
Efficiency: N/A  
Efficacy: 94.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G1

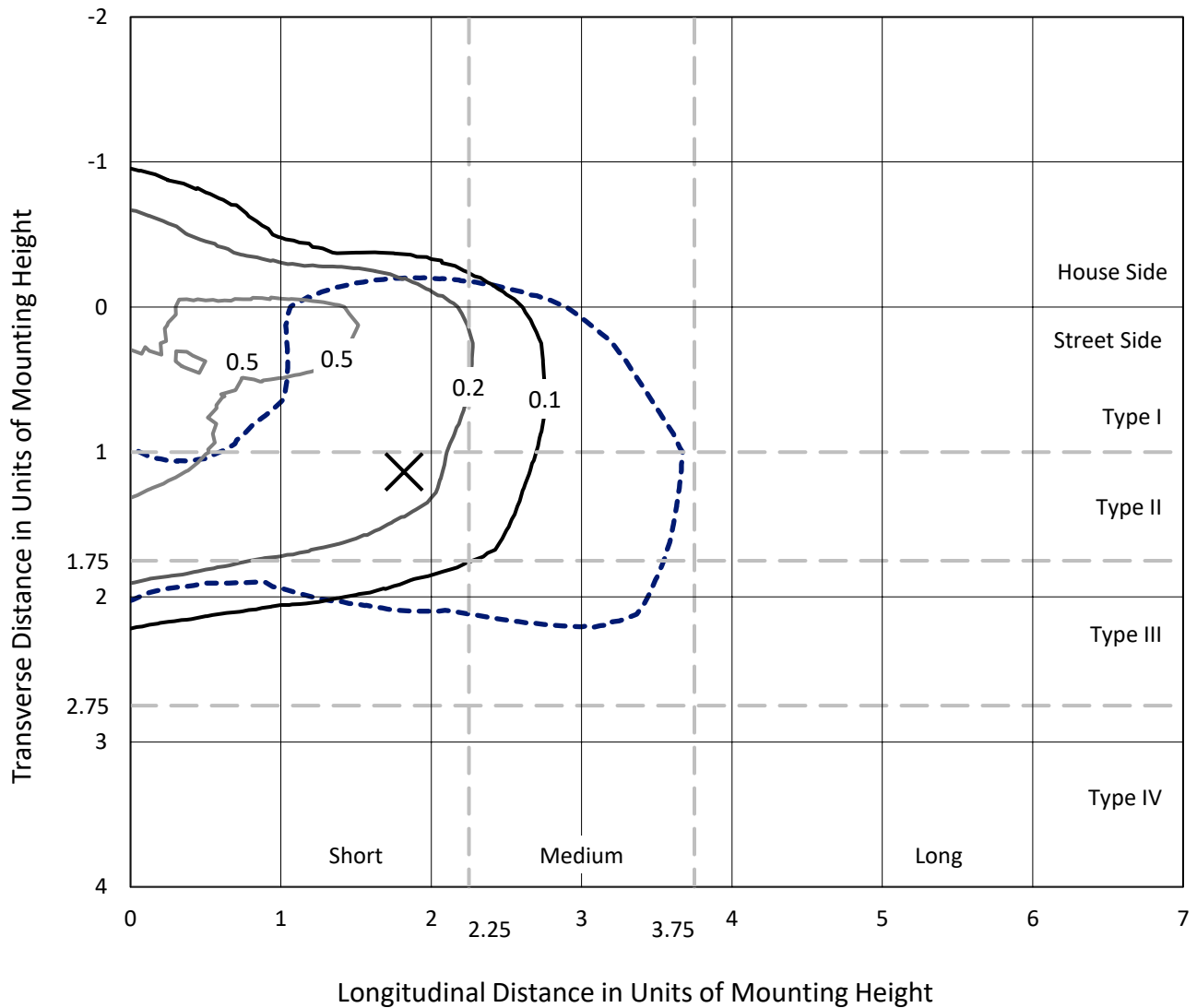
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

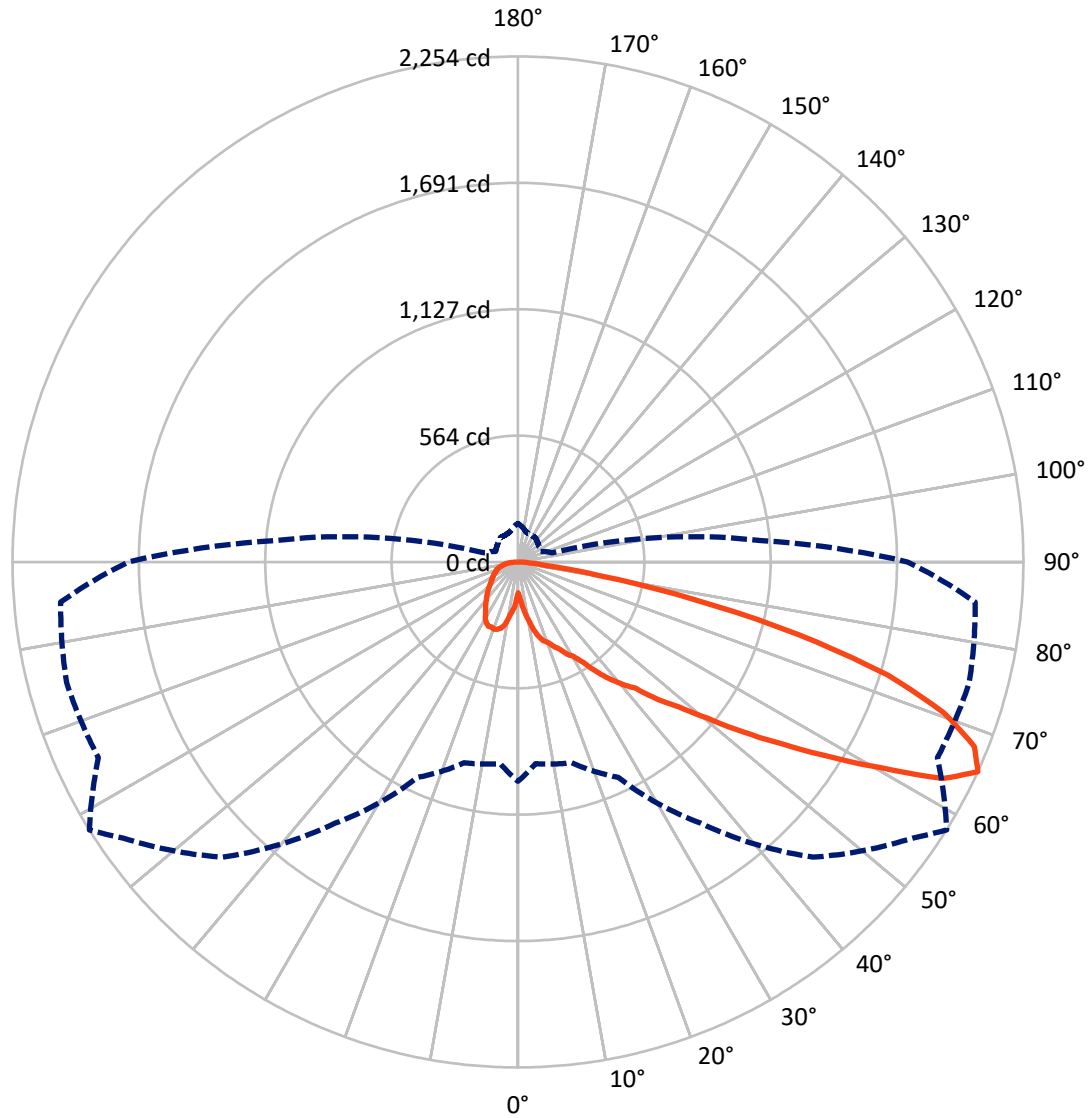
✕ Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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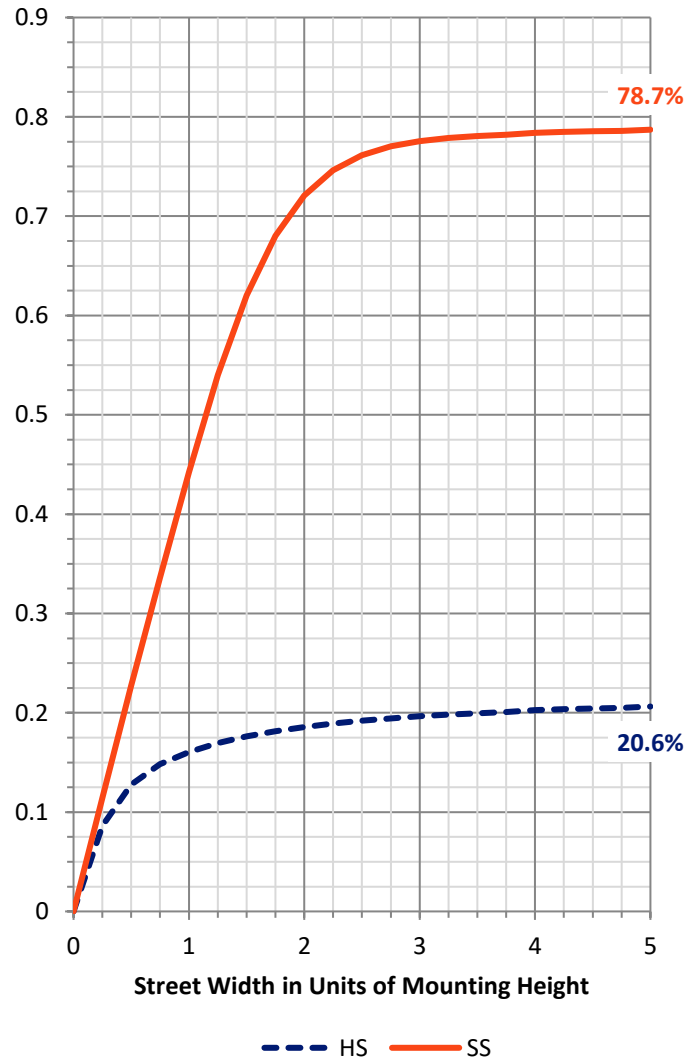
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	675.5	0.0	675.5
	% Fixture	21.1	0.0	21.1
<b>Street Side</b>	Lumens	2531.5	0.0	2531.5
	% Fixture	78.9	0.0	78.9
<b>Total</b>	Lumens	3207.0	0.0	3207.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	21.0	0.7
10°-20°	91.5	2.9
20°-30°	175.6	5.5
30°-40°	289.9	9.0
40°-50°	481.9	15.0
50°-60°	795.9	24.8
60°-70°	892.8	27.8
70°-80°	405.9	12.7
80°-90°	52.4	1.6
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°	3207.0	100.0
0°-180°	3207.0	100.0

**Coefficient of Utilization**



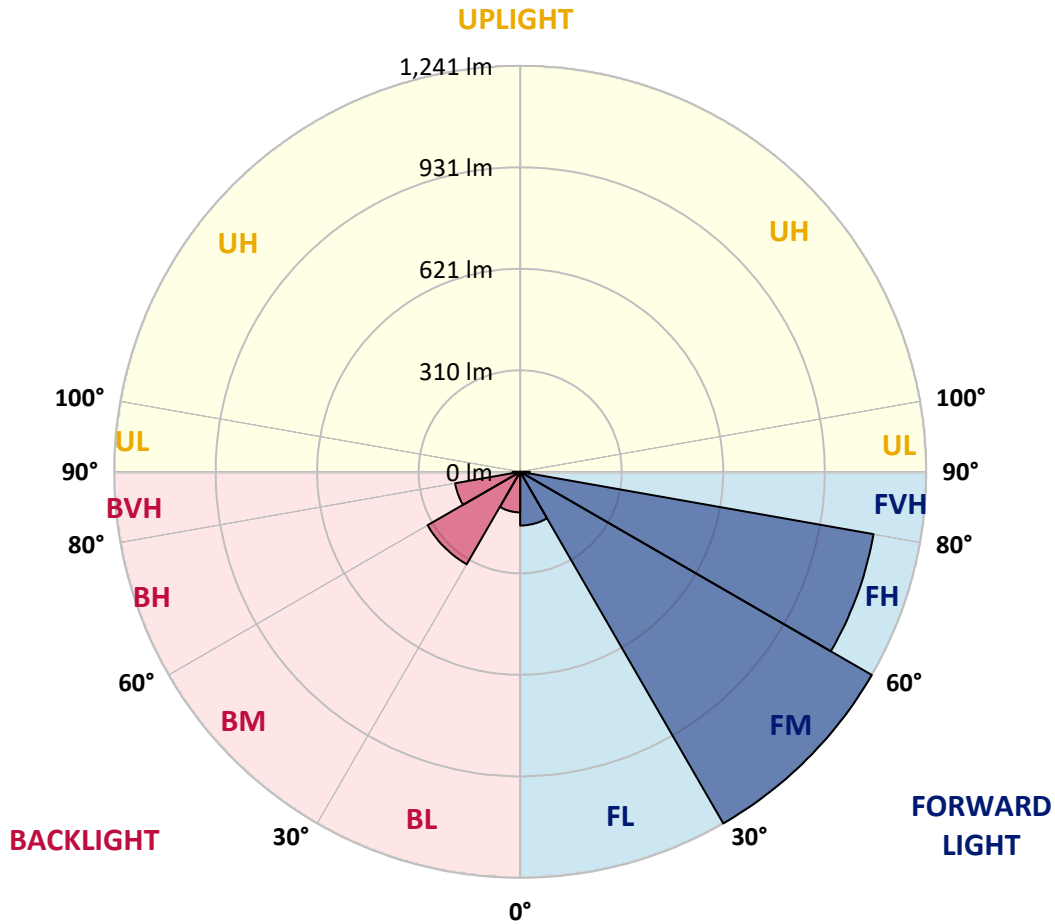
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	164.1	5.1			
FM (30°-60°)	1241.1	38.7			
FH (60°-80°)	1096.9	34.2			G1/1800
FVH (80°-90°)	29.5	0.9			G1/100
BL (0°-30°)	124.0	3.9	B1/500		
BM (30°-60°)	326.7	10.2	B1/1000		
BH (60°-80°)	201.9	6.3	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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7
2.5°	164.4	159.5	151.2	153.2	158.0	160.7	159.1	156.9	154.1	153.6	165.9
5°	212.9	203.4	199.5	197.9	192.1	188.6	194.6	193.8	197.0	202.9	214.9
7.5°	248.3	241.6	235.2	234.5	223.2	219.2	227.2	231.4	237.2	237.3	253.6
10°	267.2	261.5	261.4	255.4	254.4	262.0	262.2	265.4	266.0	272.9	269.6
12.5°	287.8	287.4	294.8	294.6	303.2	315.7	309.4	309.4	311.3	303.0	313.2
15°	336.8	341.1	327.3	329.6	329.6	341.9	341.5	343.9	349.6	347.5	343.0
17.5°	387.8	390.5	375.3	361.1	362.2	359.5	369.1	370.1	364.6	389.4	384.0
20°	420.7	431.1	399.1	381.3	384.8	387.8	388.2	382.5	379.7	417.9	410.4
22.5°	461.3	452.5	423.1	403.5	408.7	404.5	403.7	408.1	412.0	426.4	438.6
25°	488.4	487.7	452.5	431.0	425.2	424.0	432.2	430.4	439.7	465.8	458.2
27.5°	527.8	540.1	477.6	482.9	457.7	431.1	457.3	465.2	481.7	477.5	494.4
30°	604.2	595.0	529.7	528.2	499.6	477.3	495.5	488.8	518.6	517.7	530.2
32.5°	666.6	673.0	590.8	575.5	554.2	527.4	515.4	533.9	550.0	576.3	583.4
35°	732.5	731.1	653.5	622.5	587.4	576.3	591.1	598.9	632.9	657.1	640.3
37.5°	835.1	823.5	734.7	676.0	649.7	645.7	671.1	659.9	696.8	702.5	712.0
40°	930.5	895.5	808.9	741.8	700.0	714.9	715.7	717.2	736.9	752.6	799.5
42.5°	1021.2	996.6	884.4	833.9	772.3	757.8	766.9	769.9	819.9	851.8	916.7
45°	1145.1	1079.2	992.8	941.0	872.1	853.5	847.1	873.6	921.8	994.4	1050.1
47.5°	1249.9	1190.5	1108.1	1039.8	962.8	1015.8	979.5	964.7	1029.4	1119.4	1208.1
50°	1336.9	1271.4	1190.6	1151.2	1138.9	1186.2	1091.9	1093.7	1153.0	1280.0	1381.6
52.5°	1404.2	1334.3	1262.8	1242.7	1311.4	1338.6	1270.5	1260.2	1303.5	1453.6	1575.7
55°	1467.1	1393.0	1337.7	1378.5	1494.2	1497.3	1492.5	1435.4	1487.5	1639.6	1776.5
57.5°	1483.2	1403.4	1366.7	1425.3	1581.7	1703.3	1751.2	1639.2	1692.3	1808.9	1948.5
60°	1400.0	1331.7	1317.0	1396.6	1629.0	1806.8	1931.7	1864.8	1844.9	1944.7	2069.0
62.5°	1229.6	1150.3	1162.2	1272.8	1579.1	1847.9	2074.4	2126.6	2006.1	2052.7	2121.6
65°	978.7	903.0	927.0	1060.0	1422.7	1861.5	2147.3	2254.4	2064.3	2083.3	2047.1
67.5°	690.2	621.4	651.7	823.8	1183.6	1687.1	2159.8	2194.8	2002.4	1996.1	1843.6
70°	391.0	347.9	380.8	524.2	835.4	1344.0	2061.4	2015.3	1891.3	1802.3	1542.5
72.5°	179.4	164.5	180.3	266.8	480.9	894.3	1682.9	1724.7	1629.6	1518.4	1173.5
75°	95.4	90.1	96.8	133.3	225.0	486.5	1195.7	1289.7	1239.1	1151.6	765.5
77.5°	70.9	66.9	70.1	86.4	120.2	190.3	679.4	798.0	817.2	736.7	425.1
80°	54.4	51.2	54.4	65.3	83.2	90.4	290.5	371.9	423.6	342.3	168.9
82.5°	40.3	38.2	43.1	49.0	58.5	56.5	103.1	128.3	165.5	113.1	65.8
85°	32.1	29.4	31.3	33.3	37.4	31.0	47.1	52.8	55.8	46.7	24.3
87.5°	12.6	11.6	22.7	17.9	15.2	9.3	14.2	16.0	16.4	15.8	7.1
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°	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7
2.5°	167.2	165.9	158.0	160.5	164.7	165.5	167.2	162.4	160.0	168.8	169.2
5°	216.0	208.7	205.0	205.4	202.7	198.6	204.9	209.0	210.6	217.2	219.6
7.5°	253.8	245.1	238.8	231.6	221.4	214.9	225.8	233.9	238.1	251.7	257.1
10°	270.6	263.6	262.3	253.2	253.0	252.8	252.3	249.5	258.7	257.4	261.1
12.5°	305.3	303.8	291.1	287.5	287.9	287.5	276.3	275.8	275.9	288.2	283.8
15°	337.6	337.9	326.3	313.2	301.4	297.8	293.4	291.4	294.4	301.3	297.0
17.5°	377.6	378.9	345.6	324.9	309.4	309.0	298.5	286.1	304.0	308.2	303.6
20°	403.3	397.7	356.9	322.1	317.7	305.7	292.6	275.5	291.0	301.4	304.4
22.5°	427.8	418.0	367.3	327.1	306.0	291.7	279.0	267.9	272.9	284.5	282.6
25°	444.3	441.7	381.7	339.0	305.6	273.8	256.7	249.6	252.1	270.2	268.4
27.5°	483.9	455.0	379.2	342.0	292.7	249.3	240.8	233.2	230.6	250.1	255.5
30°	510.3	498.4	396.1	337.2	276.6	229.3	216.8	215.2	216.0	238.1	239.6
32.5°	555.2	524.3	423.9	318.8	253.1	214.5	200.1	200.7	204.3	220.5	223.8
35°	601.9	583.5	427.6	305.6	234.0	198.7	192.9	188.2	190.2	204.3	205.0
37.5°	688.7	625.0	450.6	285.1	220.0	192.7	181.5	177.4	178.4	186.4	192.2
40°	765.1	708.5	439.9	265.4	202.6	184.7	170.7	167.6	164.4	172.3	175.9
42.5°	887.6	768.1	436.3	243.6	194.5	173.9	164.3	156.1	153.1	159.7	166.3
45°	1010.1	831.2	416.7	221.6	183.0	173.1	154.9	147.2	148.0	154.0	160.7
47.5°	1146.6	916.0	383.4	200.2	170.4	169.2	145.6	142.2	144.6	151.3	158.0
50°	1307.9	1006.1	355.9	181.0	161.5	157.6	144.4	140.4	142.6	150.5	157.1
52.5°	1484.3	1104.8	335.9	163.2	151.3	148.4	146.0	142.1	144.8	151.6	158.4
55°	1659.7	1194.9	322.3	151.0	142.6	144.5	149.3	146.5	147.8	152.9	159.7
57.5°	1789.8	1242.5	294.9	138.1	135.6	142.2	149.7	145.0	145.8	152.9	160.3
60°	1865.3	1251.5	249.9	127.5	129.9	137.7	145.6	139.6	139.0	150.6	159.9
62.5°	1857.1	1198.8	198.2	117.9	123.5	130.9	139.3	133.6	135.0	150.9	160.7
65°	1738.5	1091.0	157.6	109.8	115.8	123.4	134.1	131.8	138.9	161.6	172.2
67.5°	1530.1	933.5	126.6	102.2	108.6	118.3	137.7	143.7	146.8	172.6	183.4
70°	1240.0	725.3	105.5	95.5	102.8	120.7	148.1	146.9	144.4	167.3	175.9
72.5°	895.9	497.2	92.8	88.9	95.8	113.5	148.4	142.0	138.8	152.8	158.9
75°	560.5	296.6	81.1	80.7	84.9	101.8	141.7	136.0	127.3	134.2	142.2
77.5°	320.1	151.9	68.2	71.9	74.4	88.3	126.9	121.7	113.9	116.9	124.7
80°	122.2	73.5	57.6	63.8	63.2	74.8	107.5	106.3	97.5	98.4	103.2
82.5°	57.6	41.1	47.8	54.9	51.3	59.6	87.3	86.9	79.2	71.7	75.6
85°	21.4	21.9	35.0	41.8	35.7	38.5	63.2	61.4	54.0	45.5	50.3
87.5°	4.8	7.9	17.2	21.8	12.4	11.9	25.5	22.2	21.4	12.7	13.4
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)