

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: P366717

Luminaire Tested: **MSA-SA1A-830-U-SL4-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366717  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1A-830-U-SL4-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2656 lumens  
Efficiency: N/A  
Efficacy: 78.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1

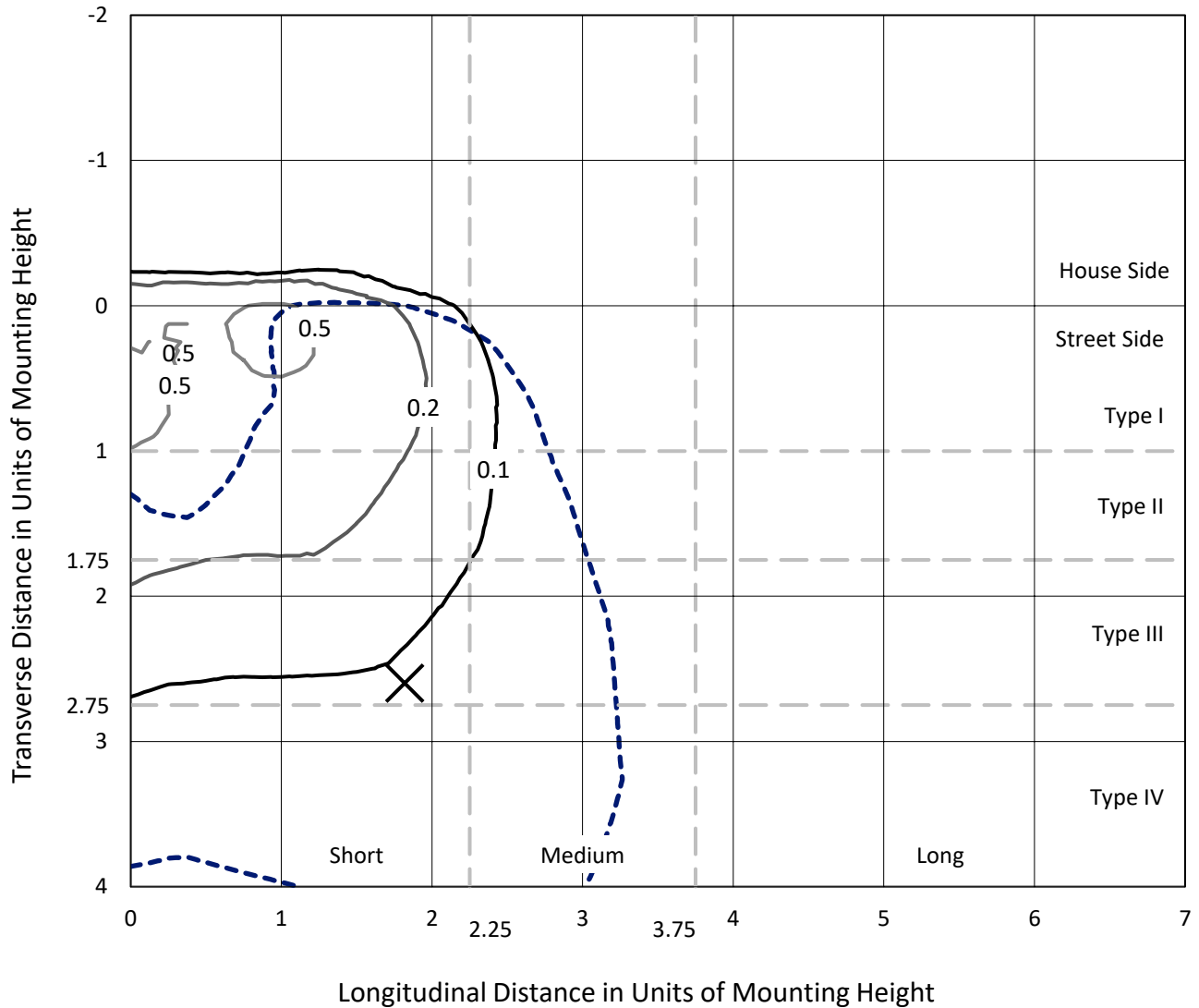
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

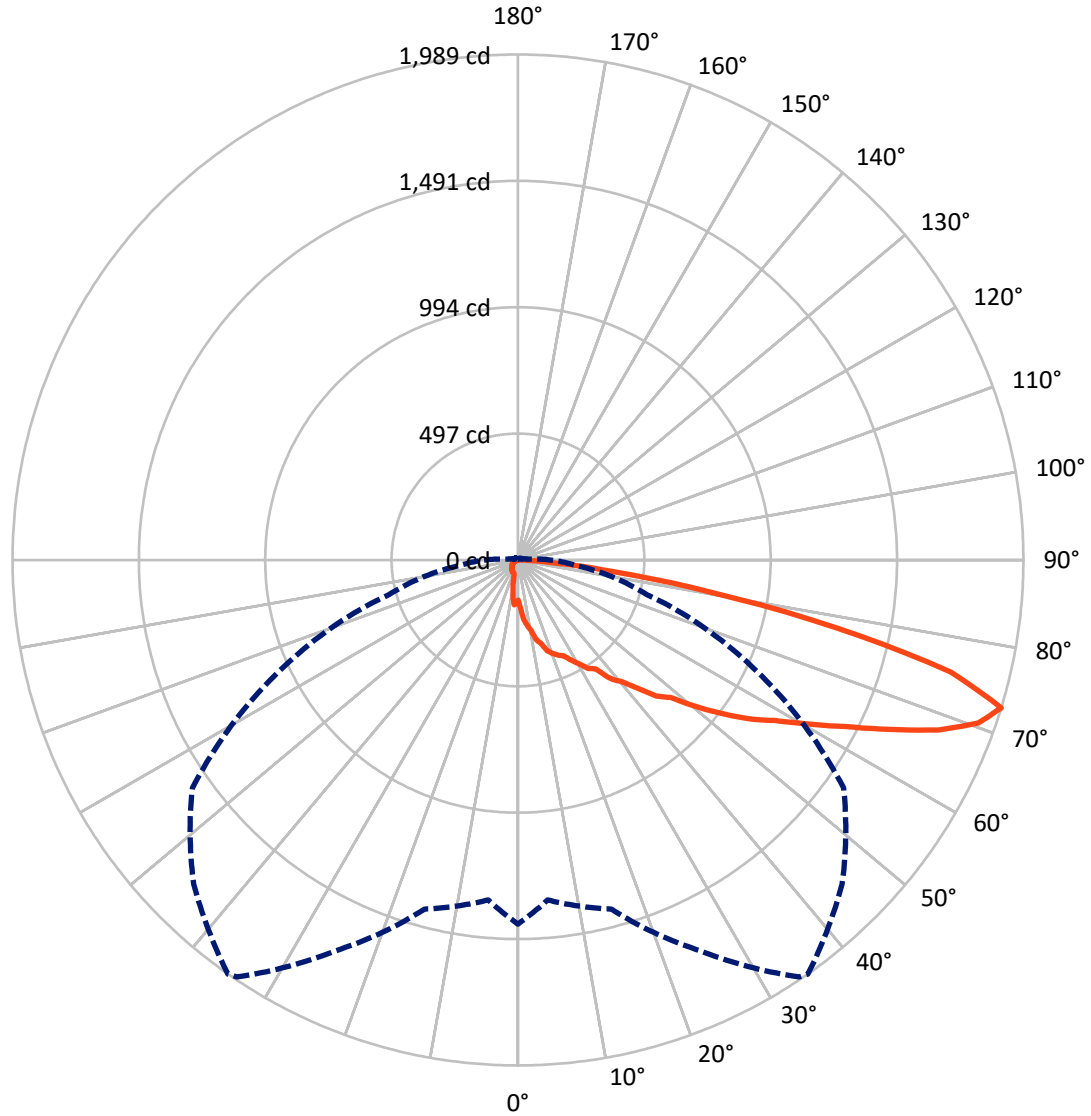
× Max cd  
 - - - 1/2 Max cd



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 35-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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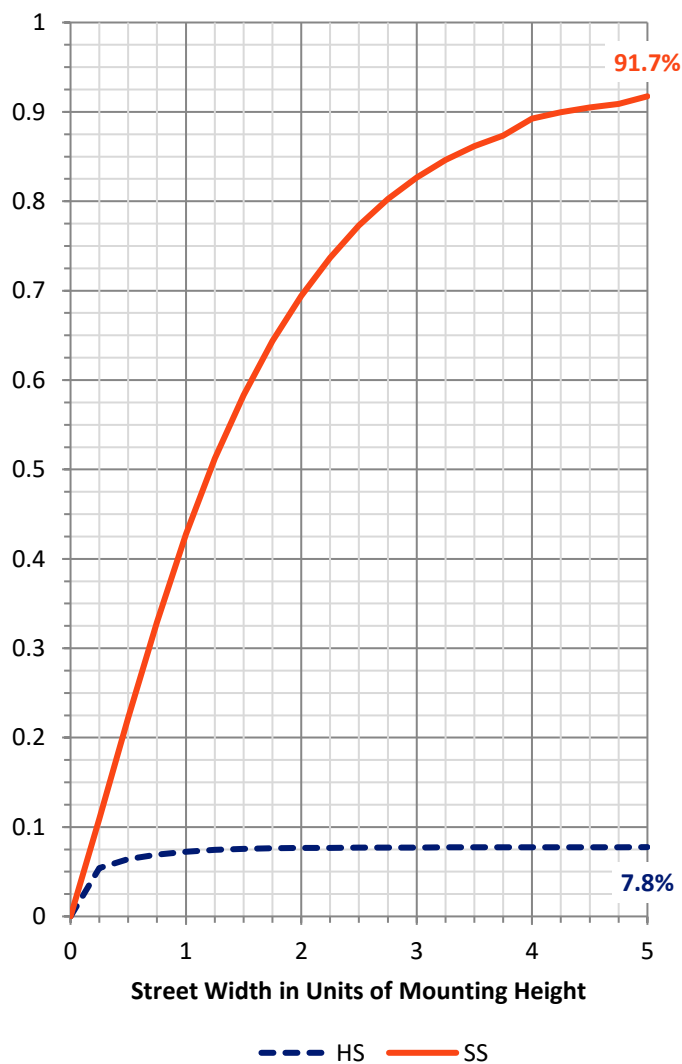
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	207.2	0.0	207.2
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	2448.8	0.0	2448.8
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	2656.0	0.0	2656.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	20.2	0.8
10°-20°	68.0	2.6
20°-30°	123.8	4.7
30°-40°	213.5	8.0
40°-50°	379.5	14.3
50°-60°	566.4	21.3
60°-70°	723.6	27.2
70°-80°	503.4	19.0
80°-90°	57.6	2.2
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°	2656.0	100.0
0°-180°	2656.0	100.0

**Coefficient of Utilization**



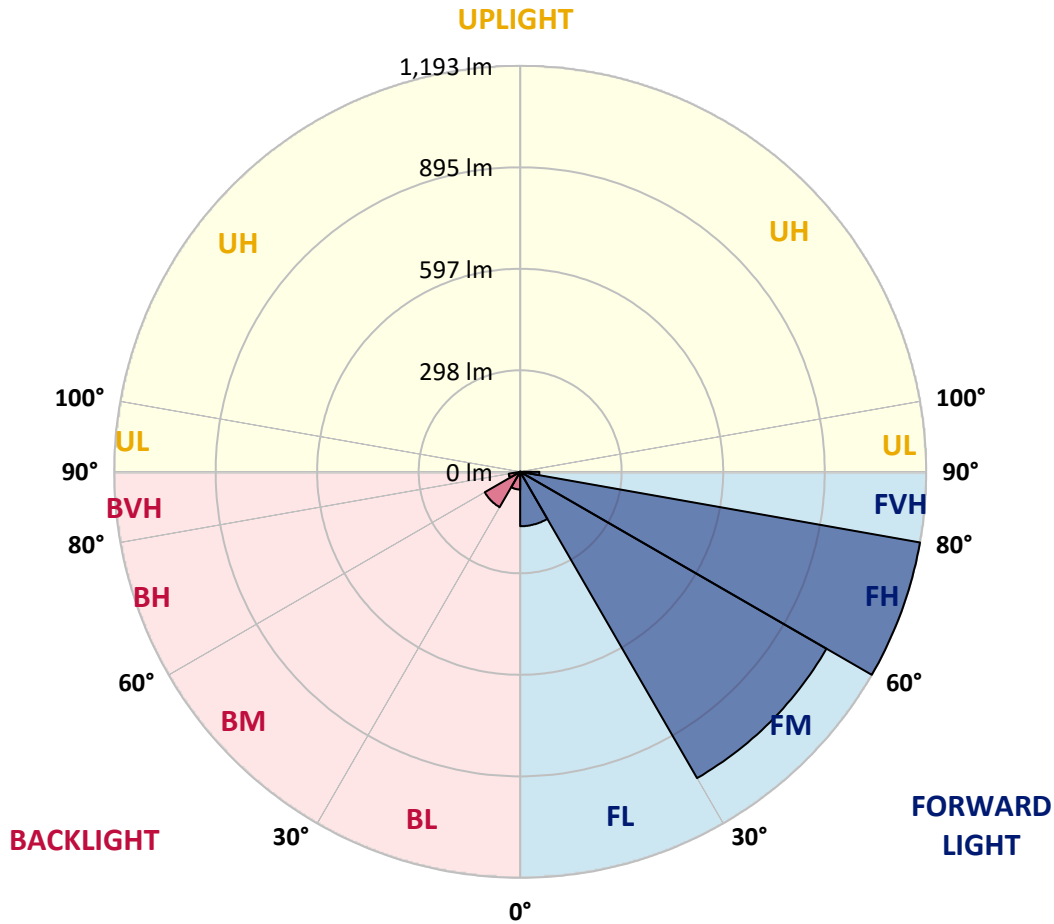
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	159.8	6.0			
FM (30°-60°)	1039.3	39.1			
FH (60°-80°)	1193.1	44.9			G1/1800
FVH (80°-90°)	56.6	2.1			G1/100
BL (0°-30°)	52.1	2.0	B0/110		
BM (30°-60°)	120.1	4.5	B0/220		
BH (60°-80°)	34.0	1.3	B0/110		G0/110
BVH (80°-90°)	1.0	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2
2.5°	201.3	193.5	180.6	181.6	187.3	188.5	190.3	185.7	181.7	174.6	188.4
5°	258.0	246.6	239.4	237.1	233.8	234.1	225.9	228.8	228.0	233.3	239.5
7.5°	289.9	283.6	274.5	272.0	259.7	258.4	248.3	261.8	263.2	261.3	271.6
10°	302.5	294.3	295.3	285.9	279.7	281.3	282.9	284.0	285.7	287.5	274.9
12.5°	310.0	311.5	326.0	316.2	322.3	322.3	333.1	321.6	322.0	309.5	311.6
15°	343.7	351.8	345.3	345.1	338.5	340.2	352.8	343.7	348.3	344.6	330.2
17.5°	385.9	387.5	375.0	369.6	375.6	375.7	370.4	370.0	353.7	381.2	363.7
20°	399.3	408.4	390.8	369.4	394.4	393.2	392.8	386.5	359.4	397.6	383.2
22.5°	436.1	423.1	411.1	397.1	406.8	406.8	405.4	391.6	381.1	396.1	402.3
25°	447.5	449.2	433.5	429.0	429.3	417.2	416.2	410.3	400.2	425.9	413.6
27.5°	487.1	486.4	448.9	461.6	445.4	445.5	416.0	429.3	431.0	427.4	441.1
30°	525.9	536.7	480.1	496.1	479.2	474.1	445.3	457.0	460.1	456.0	473.3
32.5°	575.5	591.3	536.3	520.6	494.7	509.1	489.2	461.4	476.7	513.6	523.4
35°	627.9	635.7	577.1	555.0	525.8	525.7	525.0	527.3	544.1	585.7	594.0
37.5°	722.2	703.9	650.9	600.4	607.0	592.4	582.3	592.9	610.4	679.1	714.4
40°	774.8	761.6	686.9	657.0	624.6	629.9	657.4	656.2	702.8	774.7	827.7
42.5°	825.9	813.4	740.0	715.8	674.1	688.7	700.7	715.9	811.4	927.3	956.4
45°	871.5	834.6	782.8	783.7	762.1	763.9	785.1	799.1	937.2	1056.0	1076.4
47.5°	899.0	868.7	819.0	818.1	816.7	808.6	908.6	921.4	1037.4	1178.6	1180.4
50°	937.7	899.8	856.2	857.0	887.9	905.1	1024.5	1023.1	1134.2	1280.8	1237.7
52.5°	985.9	939.6	891.6	927.3	974.9	1003.0	1099.9	1139.4	1238.2	1345.0	1260.1
55°	1047.6	989.6	943.4	989.1	1093.1	1103.9	1173.7	1257.2	1351.6	1410.6	1267.3
57.5°	1119.9	1050.8	1013.4	1087.0	1190.7	1191.0	1281.2	1382.7	1421.2	1437.3	1259.2
60°	1197.9	1117.3	1079.6	1145.8	1298.3	1309.3	1400.7	1452.0	1491.8	1450.8	1244.6
62.5°	1266.5	1177.5	1148.2	1226.1	1416.3	1442.2	1504.9	1497.5	1542.8	1467.8	1207.7
65°	1348.3	1255.5	1236.2	1351.2	1570.4	1606.1	1621.8	1578.3	1559.9	1454.7	1111.4
67.5°	1429.2	1342.4	1341.8	1489.9	1772.4	1784.7	1768.2	1692.2	1540.0	1339.3	935.0
70°	1486.2	1393.0	1428.1	1641.9	1956.0	1921.6	1851.9	1746.0	1396.3	1026.5	610.8
72.5°	1432.6	1342.8	1422.0	1695.9	1978.7	1988.6	1803.4	1564.0	1037.4	525.0	221.1
75°	1088.7	1033.7	1234.6	1504.6	1756.8	1759.1	1505.3	1103.1	510.8	142.6	61.2
77.5°	548.4	530.9	781.5	1068.1	1281.8	1278.0	1034.2	590.9	164.4	47.4	30.8
80°	277.6	263.6	332.6	576.3	761.2	766.8	590.5	264.6	82.9	25.8	21.4
82.5°	170.5	161.8	182.0	260.8	369.4	378.4	224.0	167.6	51.4	15.2	19.5
85°	33.0	34.7	104.5	130.6	147.5	144.1	66.4	137.9	15.5	9.1	14.2
87.5°	0.0	0.5	24.2	42.6	42.7	37.9	15.1	30.6	2.1	2.5	1.7
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°	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2
2.5°	190.7	188.7	172.0	170.1	170.5	167.7	166.8	160.9	159.4	168.5	170.1
5°	236.9	223.5	208.0	202.4	193.7	179.0	176.9	173.2	169.0	170.6	169.4
7.5°	265.2	247.4	230.9	201.3	176.9	155.5	152.1	145.7	139.3	139.4	143.5
10°	269.7	254.8	231.9	196.0	168.1	141.4	118.2	101.3	93.7	86.9	88.9
12.5°	296.0	282.1	240.1	194.4	155.3	113.6	83.2	66.8	59.5	57.1	56.9
15°	317.1	306.2	253.9	189.5	126.8	80.0	59.5	54.7	53.4	55.7	55.0
17.5°	348.5	328.7	252.5	169.0	96.7	60.8	54.9	54.2	55.8	57.1	57.5
20°	362.2	333.8	242.5	137.0	72.4	55.7	53.5	52.2	55.1	59.1	58.3
22.5°	376.1	342.5	230.7	112.2	58.2	53.3	52.1	51.0	53.3	57.1	58.1
25°	382.4	356.4	217.6	87.6	54.1	50.5	49.7	50.1	51.9	55.4	55.0
27.5°	414.0	358.0	192.7	69.2	52.3	48.5	48.5	49.4	49.4	54.1	53.7
30°	433.8	385.1	172.4	58.2	50.3	45.7	47.3	47.7	47.0	52.1	52.5
32.5°	468.5	392.5	152.6	53.4	47.1	45.3	45.0	45.3	45.8	50.7	50.9
35°	521.9	429.4	125.6	51.5	45.5	43.3	41.4	42.9	44.2	47.8	48.5
37.5°	626.3	467.2	102.4	50.1	44.7	41.4	40.7	40.5	42.9	47.0	48.3
40°	710.8	534.1	83.3	48.9	43.1	40.3	38.6	38.7	40.9	43.9	45.9
42.5°	830.5	582.4	70.6	47.0	40.9	38.1	36.0	37.3	38.2	41.4	42.7
45°	930.3	619.9	62.2	45.8	38.6	35.9	34.3	35.6	34.7	36.3	38.2
47.5°	1009.8	652.6	55.9	42.9	37.1	34.7	32.7	32.3	30.7	31.1	32.8
50°	1053.4	647.2	50.7	39.9	35.2	33.5	30.7	27.9	25.8	25.6	26.7
52.5°	1068.9	617.9	46.5	37.4	33.0	30.8	27.6	23.8	21.6	21.0	21.9
55°	1073.2	575.9	42.6	34.6	30.8	27.5	24.2	20.0	17.8	16.7	17.6
57.5°	1059.3	511.1	38.9	31.9	28.3	24.3	20.7	16.4	14.3	13.0	13.8
60°	1025.0	428.9	35.5	28.6	25.6	21.5	17.5	13.2	10.9	9.7	10.1
62.5°	949.0	336.2	31.9	25.5	22.8	18.8	14.7	10.4	8.3	7.2	7.3
65°	833.4	250.6	27.8	22.6	20.3	16.3	11.7	8.0	6.3	5.3	5.2
67.5°	664.0	169.8	23.6	19.5	18.0	13.8	9.3	6.3	4.9	4.3	4.0
70°	390.3	85.6	19.6	16.8	15.5	11.5	7.3	5.1	4.5	4.0	3.7
72.5°	128.7	37.0	15.4	13.9	12.8	9.2	5.7	4.7	4.4	3.9	3.6
75°	44.9	21.4	11.3	10.7	10.1	6.9	4.8	4.3	4.3	3.7	3.3
77.5°	29.4	16.6	8.4	7.7	7.6	5.1	4.1	4.0	3.7	3.1	2.5
80°	24.4	9.3	5.9	5.5	5.3	3.2	3.3	2.9	2.3	1.3	0.5
82.5°	22.6	5.6	3.1	3.3	3.1	1.2	1.9	1.6	1.2	0.5	0.0
85°	13.2	2.5	1.7	1.7	1.3	0.3	0.9	0.9	0.5	0.1	0.0
87.5°	1.5	1.2	0.9	0.9	0.7	0.0	0.4	0.3	0.0	0.0	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)