

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: P366727

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

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366727  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)  
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-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2405 lumens  
Efficiency: N/A  
Efficacy: 70.7 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

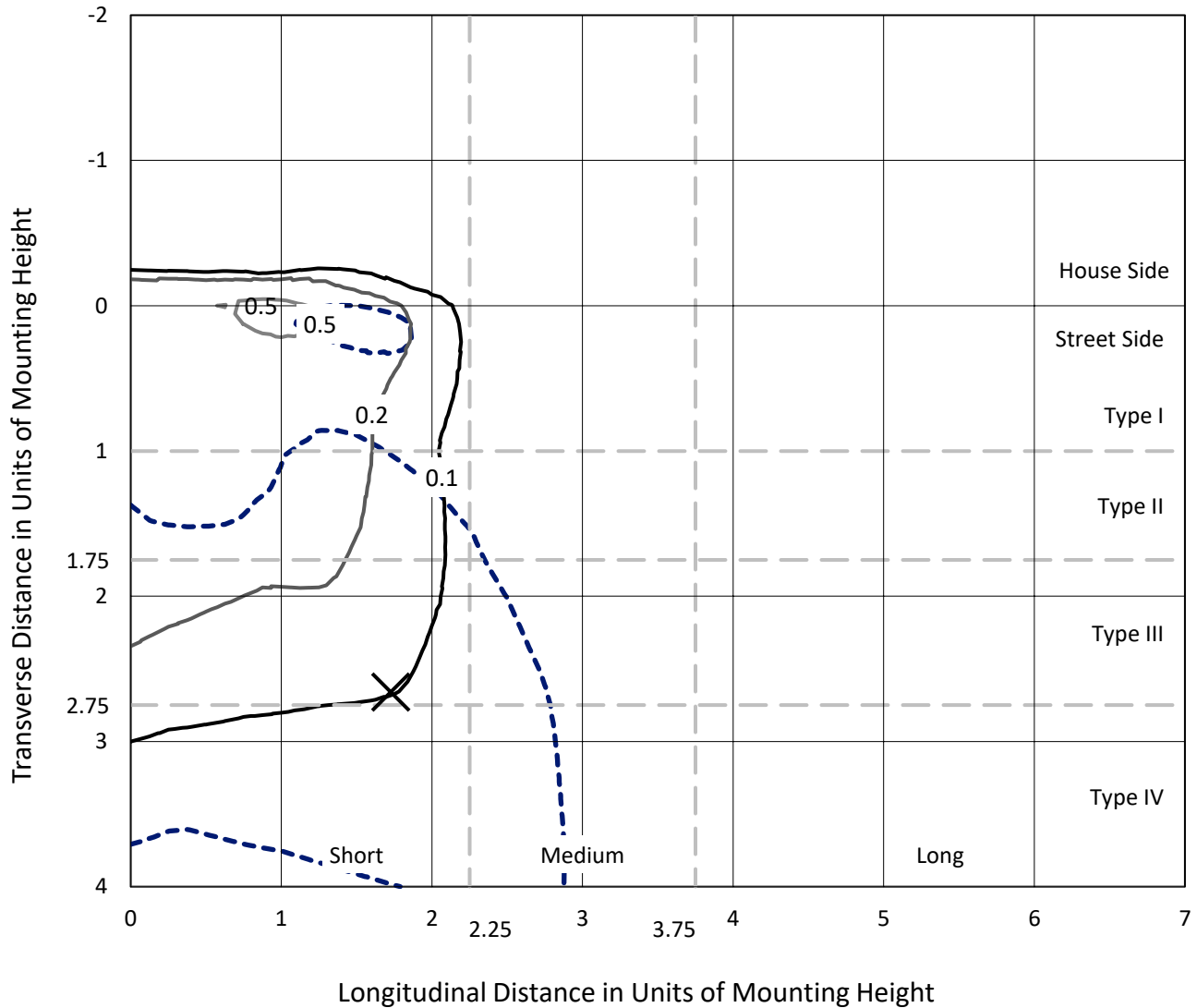
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P366727  
 CATALOG NUMBER: MSA-SA1A-830-U-T4FT-HSS

### Iso-Footcandle Lines of Horizontal Illumination

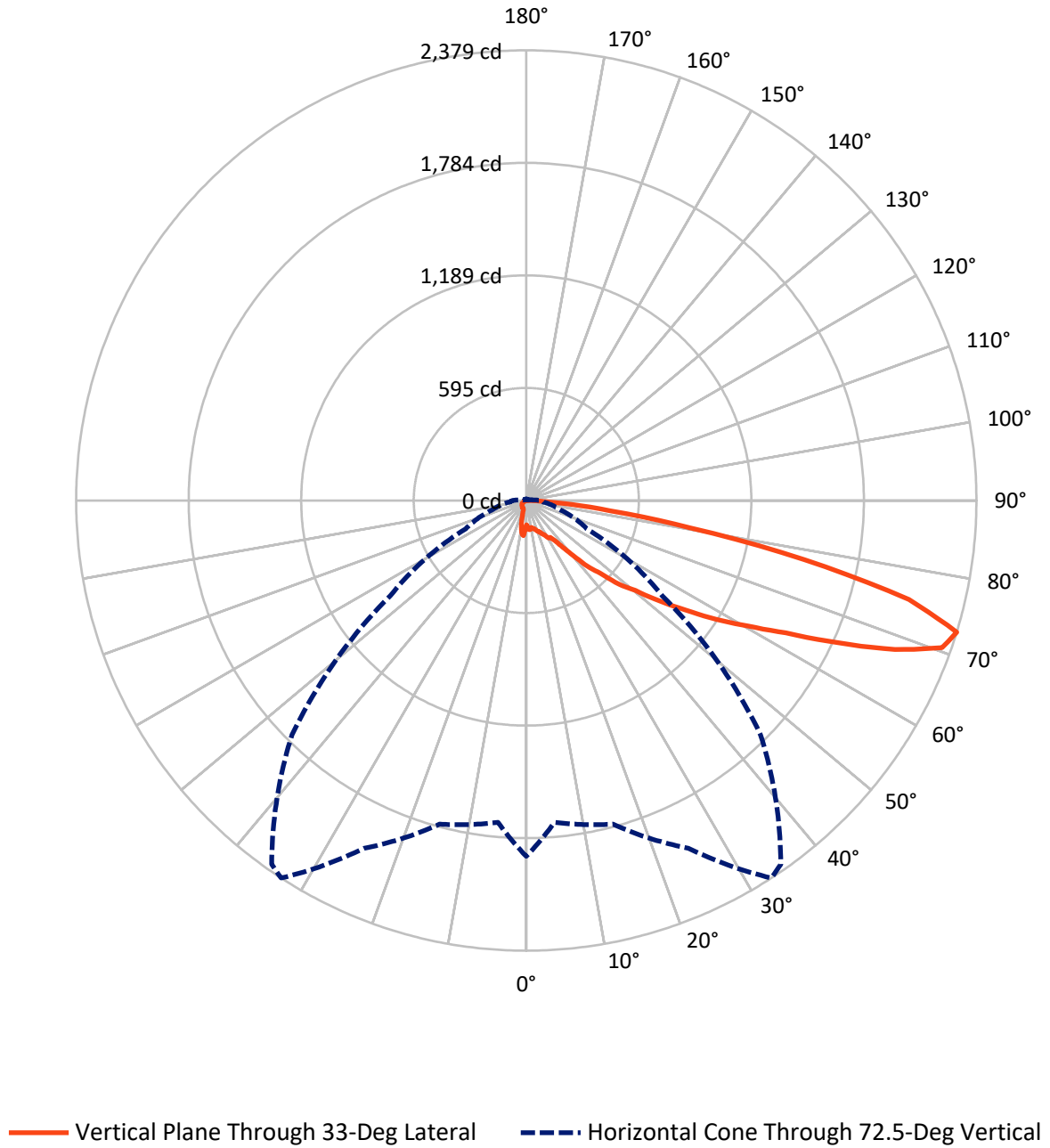
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.6 fc  
 Type IV - Short - N/A

REPORT NUMBER: P366727  
CATALOG NUMBER: MSA-SA1A-830-U-T4FT-HSS

### Luminous Intensity Polar Plot



REPORT NUMBER: P366727  
 CATALOG NUMBER: MSA-SA1A-830-U-T4FT-HSS

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	222.4	0.0	222.4
	% Fixture	9.2	0.0	9.2
<b>Street Side</b>	Lumens	2182.6	0.0	2182.6
	% Fixture	90.8	0.0	90.8
<b>Total</b>	Lumens	2405.0	0.0	2405.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	16.6	0.7
10°-20°	49.3	2.1
20°-30°	83.7	3.5
30°-40°	153.1	6.4
40°-50°	323.2	13.4
50°-60°	540.7	22.5
60°-70°	723.8	30.1
70°-80°	472.8	19.7
80°-90°	41.9	1.7
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°	2405.0	100.0
0°-180°	2405.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P366727

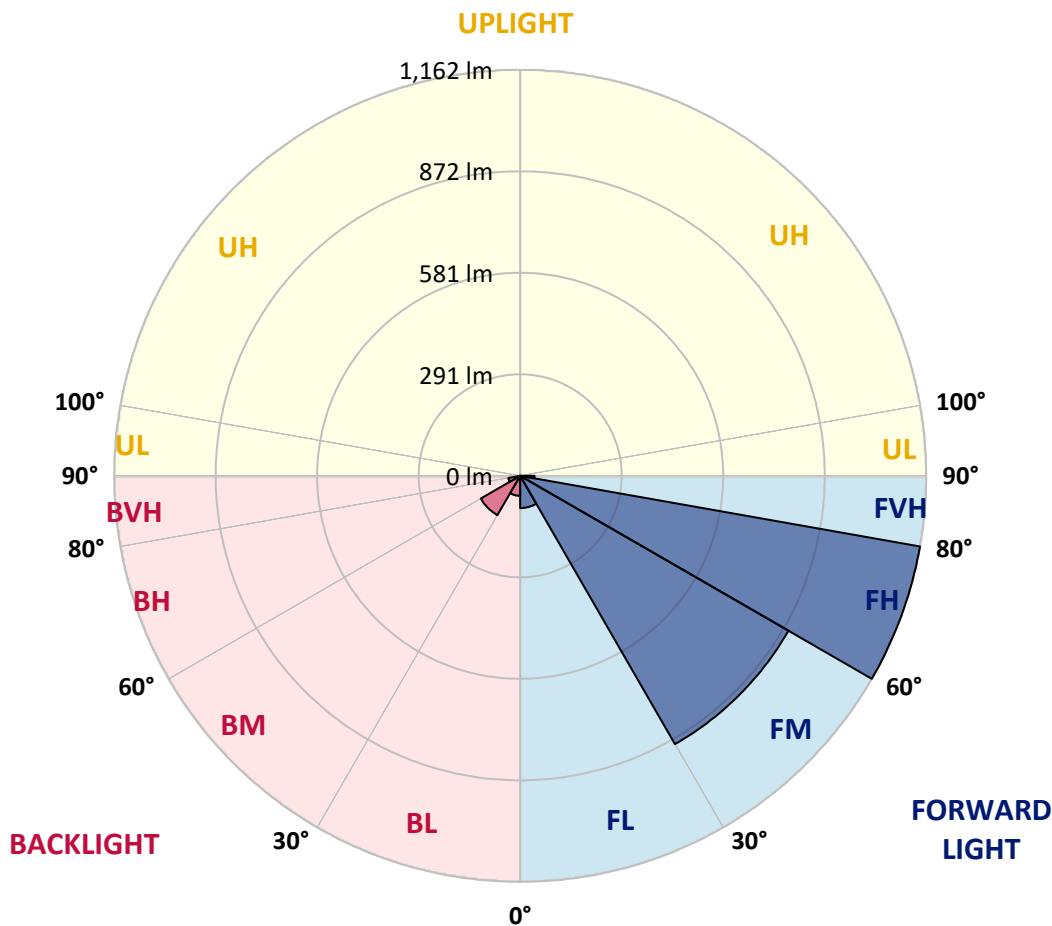
CATALOG NUMBER: MSA-SA1A-830-U-T4FT-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	92.3	3.8			
FM (30°-60°)	887.0	36.9			
FH (60°-80°)	1162.2	48.3			G1/1800
FVH (80°-90°)	41.1	1.7			G1/100
BL (0°-30°)	57.2	2.4	B0/110		
BM (30°-60°)	130.0	5.4	B0/220		
BH (60°-80°)	34.3	1.4	B0/110		G0/110
BVH (80°-90°)	0.8	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





REPORT NUMBER: P366727

CATALOG NUMBER: MSA-SA1A-830-U-T4FT-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	127.9	127.9	127.9	127.9	127.9	127.9	127.9	127.9	127.9	127.9	127.9
2.5°	152.5	146.6	138.1	138.6	140.1	141.3	144.5	143.1	140.6	140.5	152.5
5°	161.6	155.0	154.5	155.3	154.9	157.0	154.4	163.0	170.4	179.2	193.3
7.5°	157.2	154.1	150.2	154.2	154.1	153.0	154.8	172.4	190.1	201.4	224.7
10°	144.5	141.0	143.9	145.3	144.3	149.0	160.6	175.1	196.3	219.8	231.1
12.5°	140.9	143.0	144.1	144.1	153.0	155.4	173.2	186.8	212.0	230.6	263.6
15°	154.9	159.0	151.7	150.1	152.9	154.2	174.0	190.4	222.7	256.6	284.3
17.5°	177.2	176.9	165.6	159.3	163.7	166.9	177.9	197.1	216.0	277.1	317.1
20°	192.5	192.8	172.4	159.3	173.9	175.7	187.9	203.2	218.2	287.3	338.6
22.5°	212.3	205.2	182.7	170.0	179.9	181.6	194.9	207.1	229.1	286.1	366.1
25°	228.5	223.9	195.5	186.7	195.5	193.1	205.2	223.5	240.9	305.2	382.3
27.5°	253.6	245.8	204.6	206.2	205.6	207.4	210.2	238.2	261.6	306.2	419.7
30°	276.9	272.4	224.9	224.9	230.1	226.7	228.7	262.6	281.6	327.8	461.7
32.5°	301.1	301.4	248.8	236.1	231.9	245.7	259.2	274.5	305.8	364.9	526.1
35°	365.1	359.7	294.6	262.9	259.6	258.8	280.4	321.9	348.6	413.3	612.8
37.5°	493.9	475.4	393.1	323.8	311.2	307.0	331.5	374.1	400.7	484.3	756.0
40°	626.1	592.1	500.7	422.6	381.9	363.5	392.0	428.2	475.5	562.8	888.6
42.5°	742.1	700.1	581.8	529.2	476.2	468.1	441.3	500.2	582.3	677.1	1018.5
45°	855.2	772.4	653.9	612.2	547.9	552.4	543.3	594.3	693.3	802.4	1133.8
47.5°	933.1	858.7	742.3	688.2	662.4	635.9	708.0	761.0	792.1	881.9	1233.4
50°	1016.9	941.6	818.2	780.5	746.5	773.4	867.0	874.1	871.5	956.2	1301.2
52.5°	1125.2	1036.4	905.4	862.7	881.9	908.6	1016.7	1018.0	942.2	1018.7	1350.1
55°	1225.4	1127.0	1021.6	981.3	1021.5	1044.0	1163.8	1119.9	983.3	1061.1	1374.1
57.5°	1366.5	1252.6	1176.1	1105.1	1186.5	1164.9	1293.2	1227.9	1029.5	1089.3	1365.3
60°	1544.9	1410.8	1334.2	1259.0	1346.3	1361.0	1419.5	1281.9	1047.4	1098.5	1312.3
62.5°	1726.4	1591.5	1490.7	1439.7	1538.8	1587.1	1536.5	1308.7	1025.9	1080.5	1192.3
65°	1951.5	1778.8	1661.1	1631.2	1814.8	1885.8	1674.8	1315.2	984.4	981.3	958.6
67.5°	2105.7	1937.6	1829.6	1879.6	2101.4	2107.2	1799.0	1317.2	844.6	768.3	629.2
70°	2142.3	1962.3	1914.0	2061.4	2330.2	2257.9	1839.1	1215.8	626.4	456.0	287.6
72.5°	1880.6	1707.3	1770.2	2027.1	2378.8	2345.7	1750.5	877.1	352.6	182.4	88.3
75°	1153.5	1048.7	1327.9	1718.6	2088.1	2066.7	1365.7	453.2	142.1	72.9	33.0
77.5°	501.7	465.9	693.0	1140.3	1500.4	1481.3	800.2	166.9	73.4	51.3	16.7
80°	166.0	161.0	262.5	540.0	878.9	862.0	337.2	69.4	52.3	41.1	9.3
82.5°	39.4	39.1	91.6	248.5	447.7	433.7	103.5	38.3	37.9	32.4	4.9
85°	9.9	10.1	25.4	101.6	181.9	160.4	27.0	19.1	26.7	22.0	2.5
87.5°	0.0	0.0	6.5	14.6	27.5	17.2	2.9	5.1	7.5	7.9	1.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P366727  
 CATALOG NUMBER: MSA-SA1A-830-U-T4FT-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	127.9	127.9	127.9	127.9	127.9	127.9	127.9	127.9	127.9	127.9	127.9
2.5°	155.2	153.7	141.7	144.6	149.1	148.7	151.7	149.4	147.4	157.3	156.4
5°	197.4	189.3	185.6	190.8	188.0	181.5	186.9	186.0	184.4	187.7	190.3
7.5°	229.0	221.7	218.3	207.4	191.5	178.9	180.9	176.3	171.8	177.1	182.4
10°	239.4	235.4	235.0	213.6	198.7	180.5	159.0	140.5	135.5	129.0	131.9
12.5°	267.7	270.1	255.0	230.1	201.2	166.4	128.2	101.9	91.2	84.3	84.7
15°	291.0	299.4	277.5	232.6	177.1	126.8	85.3	61.7	55.0	53.3	52.7
17.5°	325.5	333.7	284.4	214.6	142.7	86.0	54.9	48.1	48.5	49.7	49.4
20°	351.2	350.0	278.4	182.7	105.2	56.3	45.9	45.0	47.1	50.6	49.8
22.5°	375.9	367.6	274.7	153.2	68.1	45.3	44.3	44.2	46.2	49.5	50.5
25°	393.5	394.8	268.4	119.9	49.5	42.1	42.9	44.1	46.1	49.7	49.1
27.5°	444.0	406.6	242.2	87.1	41.8	40.3	42.3	44.7	45.4	49.9	50.1
30°	476.7	450.9	225.1	58.6	38.6	37.3	41.3	44.5	45.3	51.1	51.5
32.5°	533.7	470.0	205.4	43.5	35.9	36.3	38.9	43.1	46.9	53.1	53.4
35°	604.6	531.3	169.6	39.1	35.0	34.3	35.5	40.5	46.6	53.4	54.7
37.5°	739.6	568.0	134.5	37.9	35.0	33.8	35.0	37.9	45.8	56.1	58.9
40°	830.0	642.8	96.9	37.7	34.3	33.2	33.6	36.6	43.5	54.5	58.6
42.5°	941.4	674.3	71.4	37.0	33.6	32.0	32.3	36.1	41.3	51.1	54.2
45°	1032.6	697.3	56.2	36.7	32.0	31.5	32.0	35.7	39.1	43.9	46.7
47.5°	1101.9	724.0	45.1	35.0	31.6	31.5	30.8	33.4	35.5	36.7	38.6
50°	1152.6	718.0	37.4	32.3	30.3	31.1	29.9	30.3	30.8	30.2	32.3
52.5°	1183.7	696.3	31.1	29.1	28.7	29.4	27.9	26.7	25.8	25.2	26.6
55°	1195.1	652.9	26.4	25.0	25.9	26.2	25.0	22.8	21.2	20.4	21.5
57.5°	1173.6	586.8	23.0	20.7	22.8	22.8	21.2	19.0	17.1	15.8	16.8
60°	1119.1	513.8	20.4	17.2	19.5	19.6	17.8	15.4	13.9	12.6	13.2
62.5°	1017.6	434.2	17.9	15.0	16.8	17.0	14.7	12.4	11.3	9.9	10.4
65°	814.6	332.1	15.2	13.2	14.6	14.2	12.2	10.5	9.2	7.9	8.1
67.5°	528.8	205.0	13.2	12.0	12.3	11.9	10.3	9.2	7.7	6.7	6.8
70°	236.7	88.3	11.6	10.8	10.7	10.0	8.7	8.5	7.6	6.7	6.7
72.5°	73.0	33.2	10.0	9.7	9.2	8.4	7.6	8.1	7.5	6.4	6.3
75°	28.8	15.2	8.3	8.3	8.0	6.9	6.8	7.3	6.9	5.9	5.6
77.5°	15.1	9.6	6.8	7.1	6.9	5.3	6.1	6.7	6.4	4.9	4.1
80°	8.9	5.9	5.1	5.7	5.6	3.7	4.7	4.3	3.1	1.5	0.4
82.5°	4.9	2.7	2.3	3.3	3.3	1.3	2.4	2.1	1.2	0.0	0.0
85°	2.4	1.9	1.7	1.9	1.3	0.4	1.2	1.2	0.7	0.0	0.0
87.5°	1.2	1.1	0.8	0.7	0.5	0.0	0.4	0.5	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)