

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: P367521

Luminaire Tested: **MSA-SA2C-830-U-T4W-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367521  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2C-830-U-T4W-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7390 lumens  
Efficiency: N/A  
Efficacy: 65.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

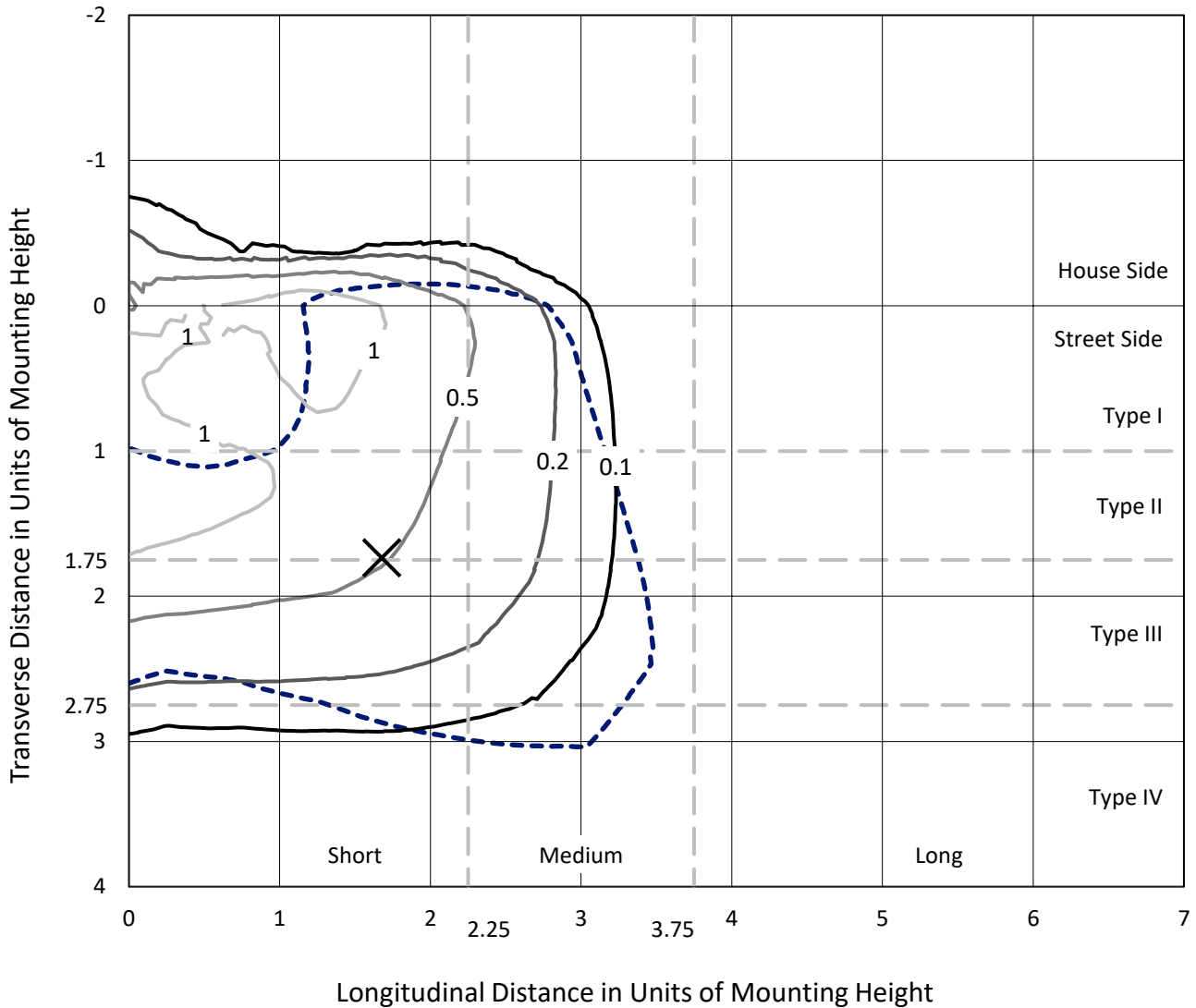
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

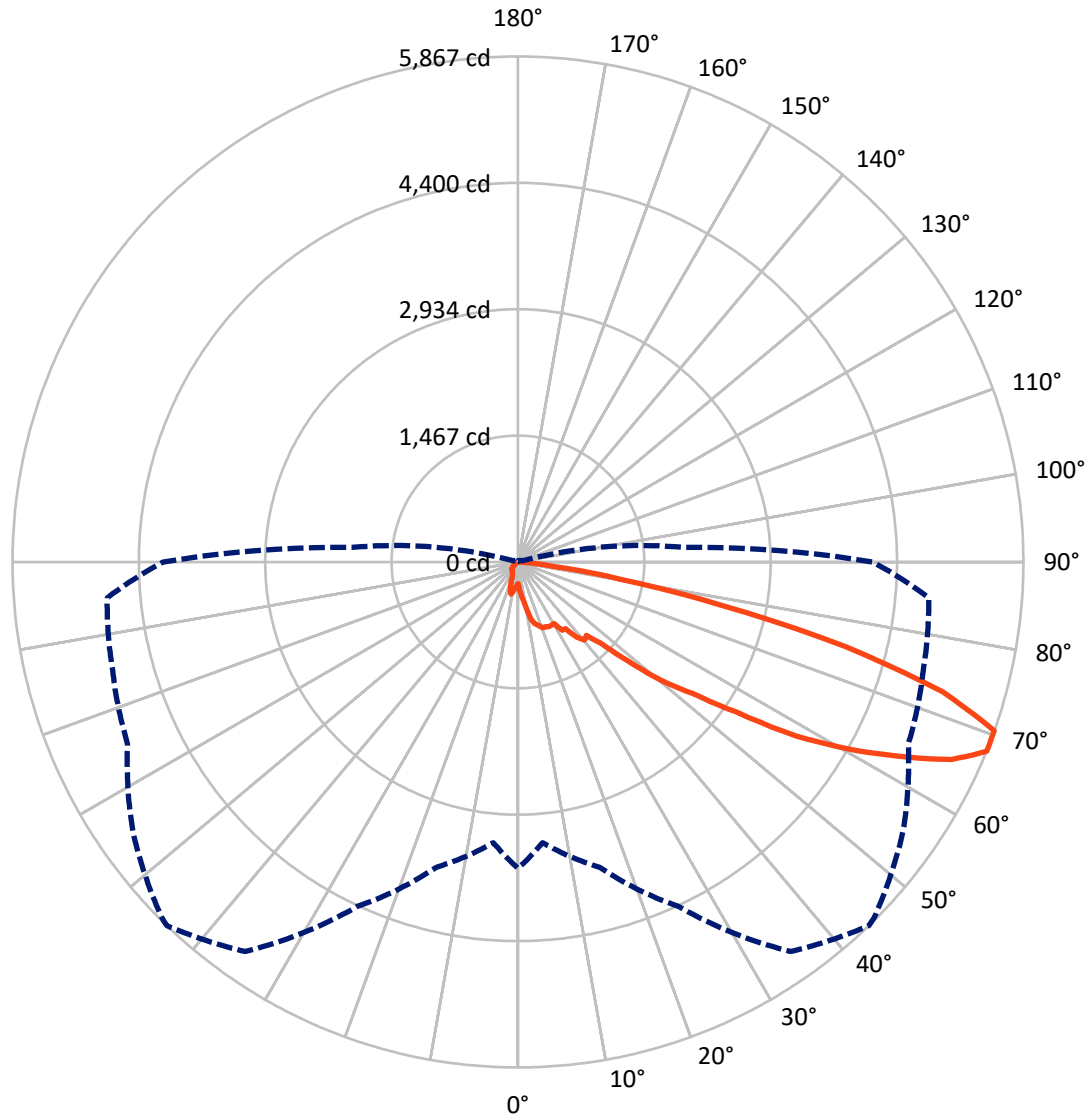
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.7 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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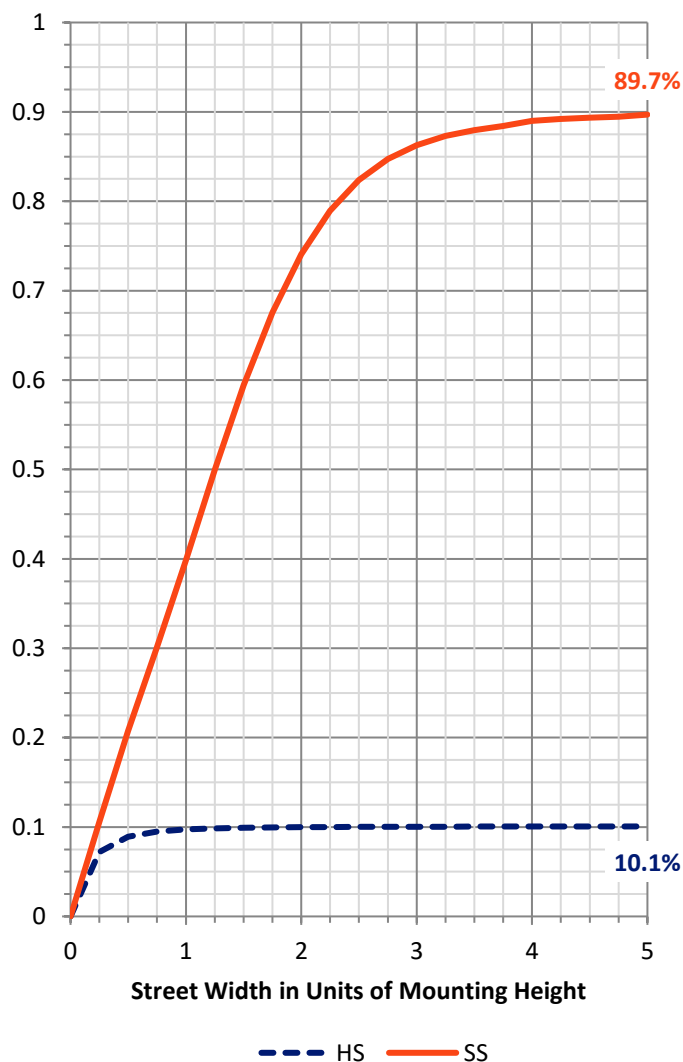
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	750.7	0.0	750.7
	% Fixture	10.2	0.0	10.2
<b>Street Side</b>	Lumens	6639.3	0.0	6639.3
	% Fixture	89.8	0.0	89.8
<b>Total</b>	Lumens	7390.0	0.0	7390.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.9	0.5
10°-20°	154.5	2.1
20°-30°	273.7	3.7
30°-40°	444.9	6.0
40°-50°	890.2	12.0
50°-60°	1826.3	24.7
60°-70°	2508.8	33.9
70°-80°	1179.2	16.0
80°-90°	75.5	1.0
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°	7390.0	100.0
0°-180°	7390.0	100.0

**Coefficient of Utilization**

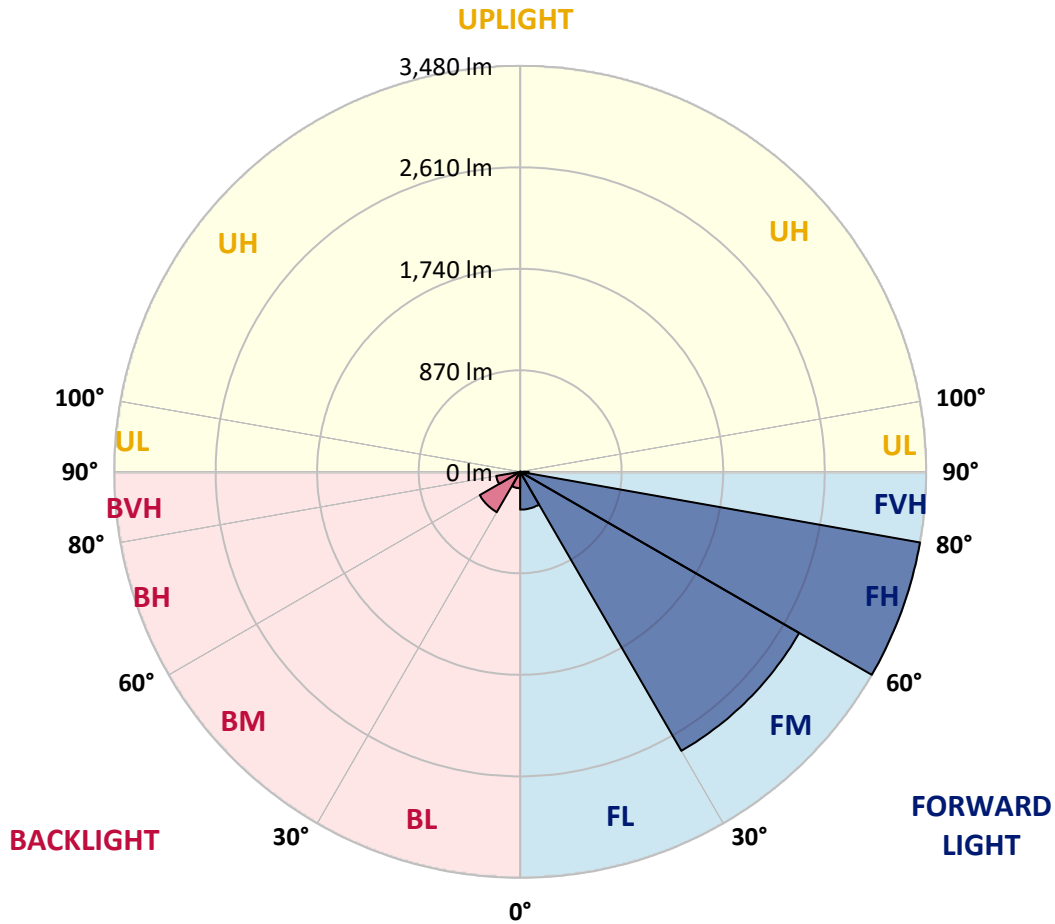


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	324.1	4.4			
FM (30°-60°)	2761.5	37.4			
FH (60°-80°)	3479.7	47.1			G2/5000
FVH (80°-90°)	74.0	1.0			G1/100
BL (0°-30°)	141.0	1.9	B1/500		
BM (30°-60°)	399.9	5.4	B1/1000		
BH (60°-80°)	208.3	2.8	B1/500		G1/500
BVH (80°-90°)	1.5	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	249.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0
2.5°	316.6	306.4	291.8	295.0	296.7	301.1	301.6	295.8	279.5	275.1	295.0
5°	443.8	418.9	414.4	405.1	386.3	376.1	373.7	383.9	370.8	366.8	372.0
7.5°	566.8	545.6	522.4	509.8	470.7	446.6	445.4	449.5	451.9	437.7	445.0
10°	648.7	625.5	620.6	590.9	557.1	551.4	548.9	533.4	520.8	510.2	474.7
12.5°	722.9	722.5	731.5	688.7	683.4	689.1	687.0	631.6	619.0	574.6	564.4
15°	821.5	846.0	807.3	771.4	725.8	745.3	740.0	704.6	696.0	665.9	622.3
17.5°	923.8	930.3	865.5	810.5	798.7	773.0	778.3	765.7	722.5	746.5	703.3
20°	926.3	940.5	871.2	780.4	816.6	815.4	815.8	803.6	746.5	802.8	763.3
22.5°	960.5	925.4	861.1	803.2	809.7	815.8	822.3	807.3	795.0	808.9	816.2
25°	946.6	932.8	870.8	832.5	826.4	831.3	832.9	852.1	844.3	877.8	859.4
27.5°	982.5	962.5	851.7	858.6	837.0	831.3	821.5	885.5	908.3	881.8	930.7
30°	1044.0	1041.2	884.7	894.9	878.2	828.0	854.1	937.7	966.2	949.9	1009.4
32.5°	1140.2	1150.0	981.3	915.2	923.8	946.2	936.4	937.7	1009.8	1046.1	1093.3
35°	1276.7	1271.4	1075.4	992.7	947.8	951.5	965.4	1031.8	1125.1	1122.7	1172.8
37.5°	1544.8	1487.0	1242.1	1071.7	1085.2	1103.5	1093.3	1182.6	1191.5	1194.8	1314.6
40°	1940.1	1863.1	1504.9	1238.4	1108.8	1189.9	1185.0	1207.0	1266.9	1289.3	1464.2
42.5°	2460.9	2357.4	1967.4	1544.8	1222.9	1167.1	1197.2	1238.8	1440.1	1504.1	1695.6
45°	3036.3	2826.8	2428.7	1981.7	1509.0	1335.8	1358.6	1436.0	1715.2	1821.1	2032.6
47.5°	3409.2	3225.0	2885.5	2368.8	1807.3	1716.4	1718.4	1735.1	2038.3	2234.7	2518.4
50°	3733.1	3537.1	3222.1	2773.5	2335.0	2163.0	2123.9	2046.9	2449.9	2718.4	3033.0
52.5°	4190.3	3961.3	3558.7	3248.2	2936.9	2531.8	2518.0	2544.0	2935.2	3217.6	3560.8
55°	4602.7	4324.4	3940.1	3744.5	3623.1	3073.8	3085.6	3129.2	3558.3	3707.9	4030.2
57.5°	4784.9	4483.3	4285.7	4197.7	4132.9	3814.2	3774.3	3748.2	4049.8	4106.8	4522.0
60°	4904.3	4617.4	4527.8	4548.1	4744.5	4406.3	4370.1	4218.5	4456.4	4503.3	4963.0
62.5°	4828.9	4567.3	4586.4	4756.4	5192.4	4969.9	4865.2	4611.7	4789.0	4826.9	5279.6
65°	4354.2	4081.5	4327.7	4738.8	5533.9	5528.6	5480.1	4974.8	4973.2	5021.6	5304.0
67.5°	3556.7	3270.6	3668.7	4410.4	5519.6	5867.2	5844.4	5456.5	4999.6	4870.1	4786.5
70°	2472.7	2224.6	2676.1	3642.3	5027.8	5864.8	5828.1	5780.0	4790.2	4192.0	3711.1
72.5°	1284.9	1148.3	1568.9	2509.8	4007.8	5152.9	5273.9	5194.8	4090.1	3045.7	2185.4
75°	436.4	391.6	647.1	1332.1	2664.2	3934.8	4076.6	3996.4	2777.9	1634.1	864.3
77.5°	169.1	157.3	231.9	540.8	1336.6	2397.7	2551.8	2469.9	1489.8	598.6	203.3
80°	96.2	92.9	128.0	243.7	589.2	1192.8	1301.2	1180.1	537.1	201.7	53.0
82.5°	40.8	42.0	71.3	131.6	296.3	420.9	469.4	428.3	224.9	138.1	19.6
85°	9.0	11.0	33.8	73.4	124.3	120.2	125.9	139.8	138.1	101.5	8.6
87.5°	0.0	0.0	10.6	20.0	29.7	19.6	15.5	27.3	42.4	40.8	3.7
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°	249.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0
2.5°	298.7	294.6	269.0	267.3	269.0	264.5	264.1	254.7	255.5	276.7	278.3
5°	372.0	351.7	329.7	322.7	316.2	301.6	309.7	309.7	309.7	323.1	327.2
7.5°	438.5	411.2	380.2	354.1	328.9	310.5	323.1	332.1	337.4	354.9	363.1
10°	468.6	441.7	414.0	376.9	357.4	350.5	335.8	328.0	337.4	333.7	338.2
12.5°	533.0	508.6	460.9	422.6	407.9	384.3	341.1	310.9	291.0	287.7	286.9
15°	595.8	580.7	516.7	465.4	414.4	359.8	286.1	246.1	224.9	221.3	221.7
17.5°	675.2	653.6	559.5	485.7	399.4	301.1	220.9	186.6	185.0	194.0	194.8
20°	728.2	692.8	581.1	469.0	349.6	227.8	172.8	164.6	177.7	194.0	192.3
22.5°	778.7	740.4	609.6	454.4	271.0	172.8	158.9	159.7	170.7	188.3	192.7
25°	812.2	798.3	644.7	420.1	206.6	149.6	152.0	158.1	167.5	184.2	184.2
27.5°	912.8	848.0	640.6	353.7	158.9	139.4	145.1	152.8	157.7	177.7	179.7
30°	973.9	952.7	661.8	286.1	139.4	126.3	137.3	144.3	147.5	170.3	171.2
32.5°	1048.9	1002.0	687.5	211.1	129.6	125.5	123.1	128.4	137.7	157.7	158.9
35°	1140.2	1126.3	650.8	165.9	126.3	117.4	112.5	115.3	121.4	134.9	137.7
37.5°	1326.4	1244.1	628.8	142.2	126.3	114.5	109.2	101.9	102.7	112.1	117.4
40°	1483.3	1458.0	567.2	138.1	120.6	110.4	97.4	88.4	82.3	85.2	87.2
42.5°	1771.4	1654.5	487.8	136.1	115.3	99.8	82.7	73.4	64.0	64.8	68.1
45°	2121.0	1868.8	416.9	134.1	111.7	89.2	69.7	58.7	48.9	49.3	52.6
47.5°	2588.0	2181.4	330.9	128.0	105.1	79.5	56.2	44.8	39.1	40.3	43.2
50°	3118.6	2455.6	261.6	118.6	97.4	70.1	45.6	36.3	34.2	35.5	38.7
52.5°	3592.5	2657.7	216.0	110.0	86.4	57.1	38.3	32.2	31.4	32.2	34.6
55°	4013.9	2775.1	180.5	100.2	74.2	46.0	34.6	29.7	29.3	28.9	30.6
57.5°	4409.2	2808.9	141.0	84.8	60.3	39.9	32.2	27.7	26.9	25.7	26.9
60°	4697.3	2751.0	103.5	68.1	49.3	36.3	30.2	24.9	23.6	21.6	22.4
62.5°	4836.2	2592.5	78.2	54.6	42.0	33.0	26.9	21.6	20.0	17.5	17.9
65°	4704.2	2331.3	61.5	46.0	35.9	27.7	22.8	18.3	16.3	13.9	13.9
67.5°	4119.4	1934.0	52.2	39.9	30.2	23.6	18.7	16.7	13.4	11.4	11.0
70°	3023.7	1391.2	44.8	35.0	26.1	20.4	15.9	15.1	13.0	11.0	10.2
72.5°	1706.6	787.3	38.3	31.0	22.0	17.1	13.4	13.9	12.6	10.2	9.4
75°	651.2	265.3	31.8	25.7	17.9	13.0	11.4	11.4	11.4	8.6	7.3
77.5°	161.4	67.6	25.3	20.8	14.3	8.6	9.4	9.8	9.8	7.3	5.3
80°	44.4	22.8	15.1	15.1	10.2	4.9	6.5	6.5	5.3	2.4	0.0
82.5°	16.3	8.6	5.3	6.5	4.5	1.6	2.4	1.6	1.2	0.0	0.0
85°	6.9	4.5	3.3	3.7	2.0	0.0	0.4	0.8	0.0	0.0	0.0
87.5°	2.9	2.0	1.6	1.6	0.8	0.0	0.0	0.0	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)