

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: P367509

Luminaire Tested: **MSA-SA2C-830-U-SL4-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367509  
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-SA2C-830-U-SL4-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

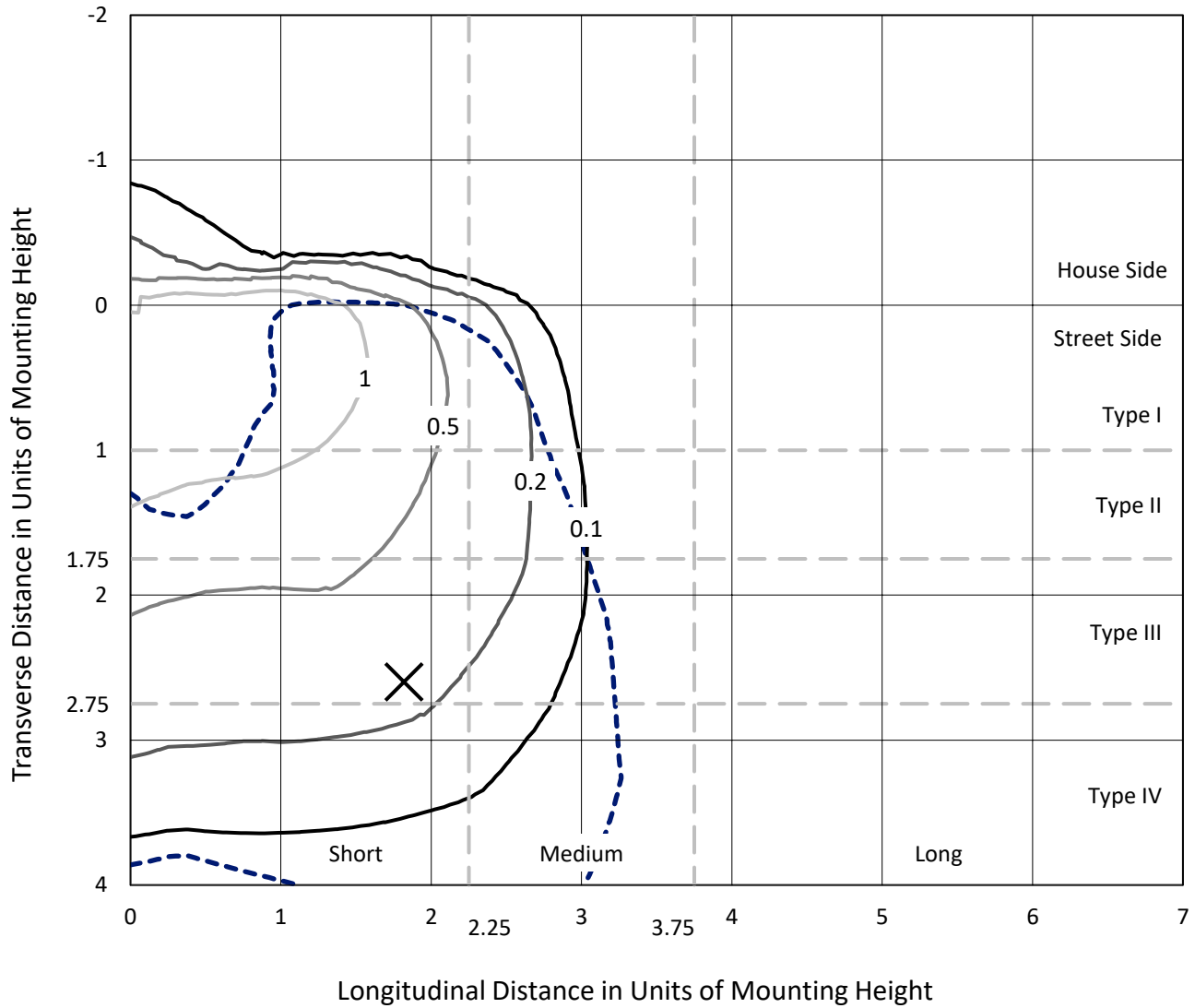
Lumens per Lamp: N/A  
Luminaire Lumens: 8107 lumens  
Efficiency: N/A  
Efficacy: 71.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

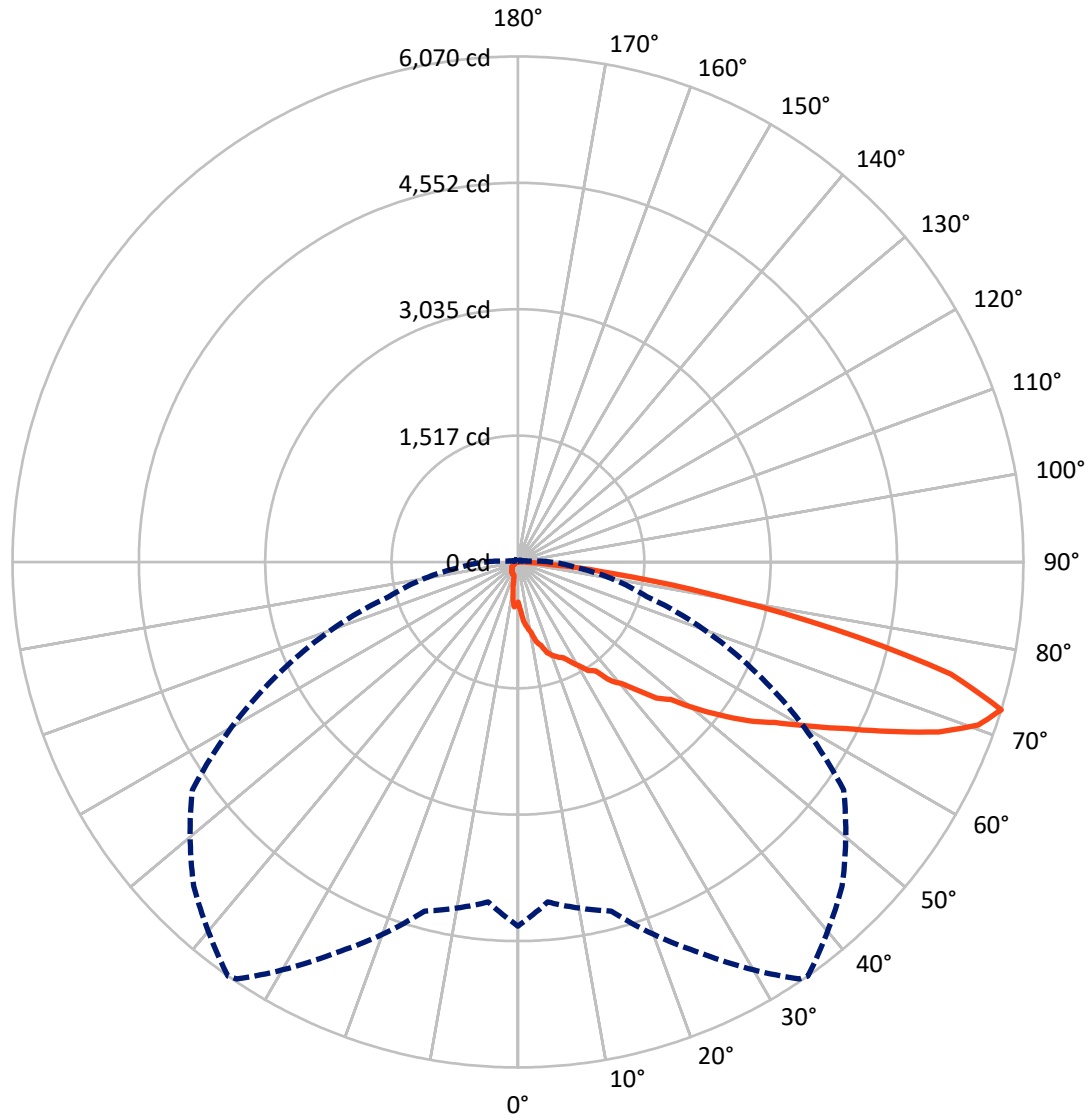
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 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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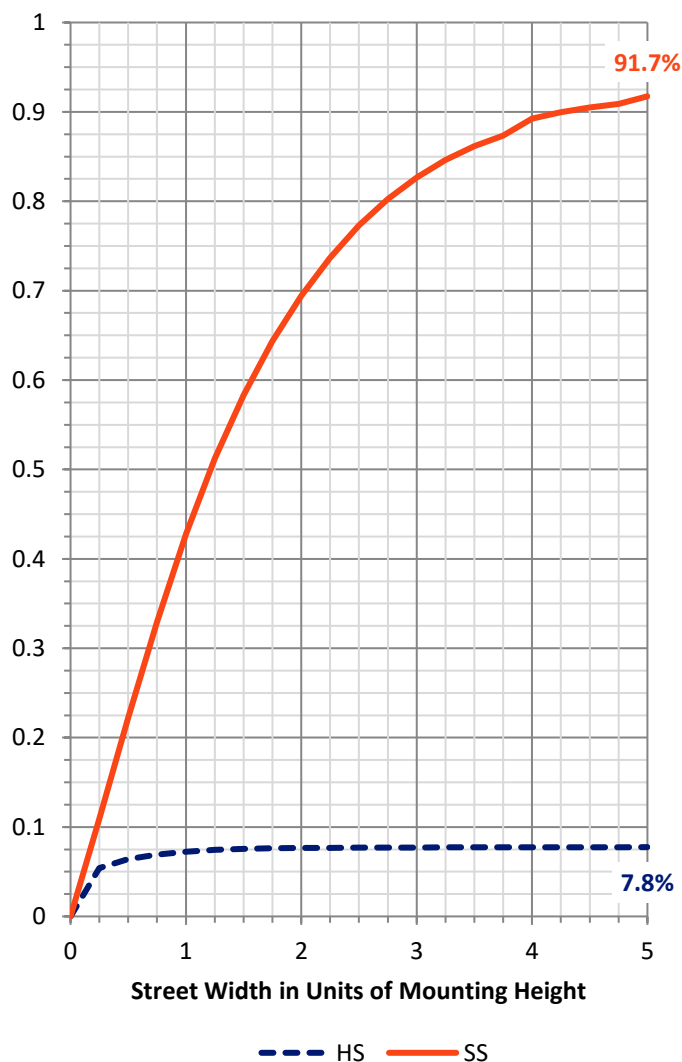
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	632.3	0.0	632.3
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	7474.7	0.0	7474.7
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	8107.0	0.0	8107.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.6	0.8
10°-20°	207.5	2.6
20°-30°	377.8	4.7
30°-40°	651.7	8.0
40°-50°	1158.5	14.3
50°-60°	1728.8	21.3
60°-70°	2208.7	27.2
70°-80°	1536.7	19.0
80°-90°	175.8	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°	8107.0	100.0
0°-180°	8107.0	100.0

**Coefficient of Utilization**

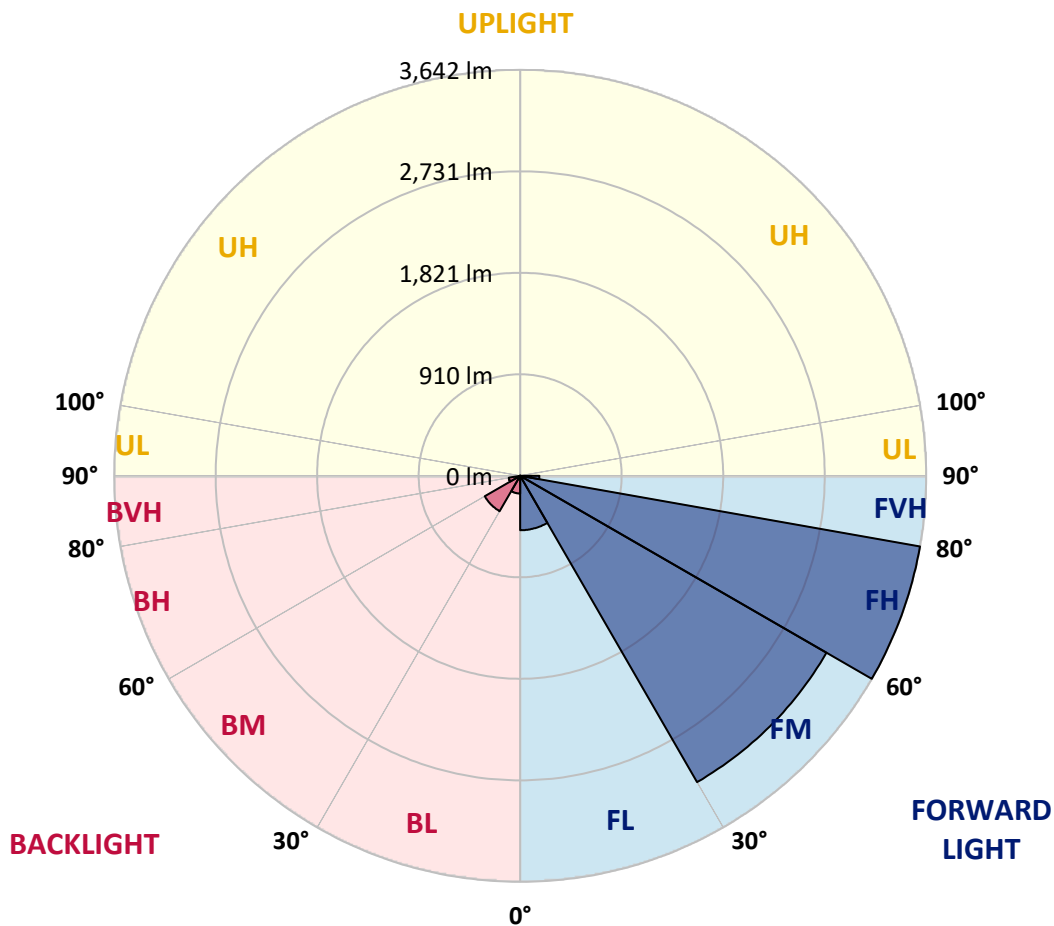


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	487.9	6.0			
FM (30°-60°)	3172.3	39.1			
FH (60°-80°)	3641.7	44.9			G2/5000
FVH (80°-90°)	172.8	2.1			G2/225
BL (0°-30°)	159.0	2.0	B1/500		
BM (30°-60°)	366.7	4.5	B1/1000		
BH (60°-80°)	103.7	1.3	B0/110		G0/110
BVH (80°-90°)	3.0	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

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





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	482.9	482.9	482.9	482.9	482.9	482.9	482.9	482.9	482.9	482.9	482.9
2.5°	614.6	590.5	551.4	554.3	571.8	575.4	580.7	566.9	554.7	533.1	575.0
5°	787.4	752.7	730.7	723.8	713.6	714.4	689.6	698.5	696.1	712.0	731.1
7.5°	884.8	865.6	837.9	830.2	792.7	788.6	758.0	799.2	803.3	797.6	828.9
10°	923.5	898.2	901.5	872.5	853.8	858.7	863.6	866.8	872.1	877.4	839.1
12.5°	946.3	950.8	995.2	965.1	983.8	983.8	1016.8	981.8	983.0	944.7	951.2
15°	1049.0	1073.9	1053.9	1053.5	1033.1	1038.4	1076.7	1049.0	1063.3	1051.9	1007.8
17.5°	1177.8	1182.7	1144.8	1128.1	1146.4	1146.8	1130.5	1129.3	1079.6	1163.5	1110.1
20°	1218.9	1246.7	1192.9	1127.7	1203.9	1200.2	1199.0	1179.8	1097.1	1213.6	1169.6
22.5°	1331.0	1291.5	1254.8	1212.0	1241.8	1241.8	1237.3	1195.3	1163.1	1209.2	1227.9
25°	1366.1	1371.0	1323.3	1309.4	1310.2	1273.6	1270.3	1252.4	1221.4	1300.0	1262.6
27.5°	1486.7	1484.7	1370.1	1408.9	1359.5	1360.0	1269.9	1310.2	1315.5	1304.5	1346.5
30°	1605.3	1638.3	1465.5	1514.4	1462.7	1447.2	1359.1	1395.0	1404.4	1391.7	1444.7
32.5°	1756.5	1805.0	1637.1	1589.0	1509.9	1553.9	1493.2	1408.5	1454.9	1567.8	1597.6
35°	1916.7	1940.3	1761.4	1694.1	1604.9	1604.5	1602.4	1609.4	1660.7	1787.9	1813.1
37.5°	2204.4	2148.5	1986.7	1832.7	1852.7	1808.2	1777.3	1809.9	1863.3	2072.7	2180.7
40°	2364.9	2324.6	2096.8	2005.5	1906.5	1922.8	2006.7	2003.1	2145.3	2364.5	2526.3
42.5°	2521.0	2482.7	2258.6	2184.8	2057.7	2102.1	2138.8	2185.2	2476.6	2830.4	2919.2
45°	2660.0	2547.5	2389.4	2392.2	2326.2	2331.5	2396.3	2439.1	2860.5	3223.2	3285.6
47.5°	2744.0	2651.4	2499.8	2497.0	2492.9	2468.1	2773.3	2812.4	3166.6	3597.3	3603.0
50°	2862.1	2746.4	2613.5	2616.0	2710.1	2762.7	3127.0	3123.0	3462.0	3909.5	3777.9
52.5°	3009.3	2867.8	2721.5	2830.4	2975.8	3061.4	3357.3	3477.9	3779.5	4105.5	3846.3
55°	3197.5	3020.7	2879.7	3019.0	3336.5	3369.5	3582.7	3837.4	4125.5	4305.6	3868.4
57.5°	3418.4	3207.3	3093.2	3317.8	3634.4	3635.2	3910.7	4220.5	4337.8	4387.1	3843.5
60°	3656.4	3410.3	3295.4	3497.5	3962.9	3996.3	4275.5	4432.0	4553.4	4428.3	3799.1
62.5°	3865.9	3594.1	3504.8	3742.4	4323.2	4402.2	4593.4	4570.9	4709.1	4480.1	3686.2
65°	4115.3	3832.1	3773.4	4124.3	4793.5	4902.3	4950.4	4817.5	4761.3	4440.1	3392.3
67.5°	4362.3	4097.4	4095.8	4547.7	5410.1	5447.6	5397.0	5165.1	4700.5	4088.0	2854.0
70°	4536.3	4251.8	4359.0	5011.5	5970.4	5865.3	5652.6	5329.4	4262.0	3133.2	1864.5
72.5°	4372.9	4098.6	4340.3	5176.6	6039.7	6069.9	5504.6	4773.9	3166.6	1602.4	674.9
75°	3323.1	3155.2	3768.5	4592.5	5362.4	5369.3	4594.6	3367.1	1559.2	435.3	186.7
77.5°	1673.8	1620.4	2385.3	3260.3	3912.4	3901.0	3156.8	1803.8	501.7	144.7	94.1
80°	847.3	804.5	1015.2	1758.9	2323.4	2340.5	1802.5	807.7	253.1	78.7	65.2
82.5°	520.4	493.9	555.5	795.9	1127.7	1155.0	683.8	511.5	156.9	46.5	59.5
85°	100.7	106.0	319.1	398.6	450.3	439.7	202.5	421.0	47.3	27.7	43.2
87.5°	0.0	1.6	73.8	130.0	130.4	115.7	46.1	93.3	6.5	7.7	5.3
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°	482.9	482.9	482.9	482.9	482.9	482.9	482.9	482.9	482.9	482.9	482.9
2.5°	582.0	575.9	524.9	519.2	520.4	511.9	509.0	491.1	486.6	514.3	519.2
5°	723.0	682.2	634.9	617.8	591.3	546.5	540.0	528.6	515.9	520.8	517.2
7.5°	809.4	755.2	704.6	614.6	540.0	474.8	464.2	444.6	425.1	425.5	438.1
10°	823.2	777.6	707.9	598.3	513.1	431.6	360.7	309.3	286.1	265.3	271.4
12.5°	903.5	861.1	732.8	593.4	474.0	346.8	253.9	203.8	181.8	174.4	173.6
15°	967.9	934.5	775.1	578.3	387.2	244.1	181.8	167.1	163.0	169.9	167.9
17.5°	1063.7	1003.4	770.7	515.9	295.1	185.4	167.5	165.5	170.4	174.4	175.6
20°	1105.7	1018.8	740.1	418.1	220.9	169.9	163.4	159.3	168.3	180.5	178.1
22.5°	1148.0	1045.3	704.2	342.3	177.7	162.6	158.9	155.7	162.6	174.4	177.3
25°	1167.2	1087.7	664.3	267.3	165.1	154.0	151.6	152.8	158.5	169.1	167.9
27.5°	1263.8	1092.6	588.1	211.1	159.8	147.9	147.9	150.8	150.8	165.1	163.8
30°	1324.1	1175.3	526.1	177.7	153.6	139.4	144.3	145.5	143.5	158.9	160.2
32.5°	1430.1	1198.2	465.8	163.0	143.9	138.2	137.3	138.2	139.8	154.9	155.3
35°	1593.1	1310.6	383.5	157.3	139.0	132.0	126.3	130.8	134.9	145.9	147.9
37.5°	1911.8	1426.0	312.6	152.8	136.5	126.3	124.3	123.5	130.8	143.5	147.5
40°	2169.7	1630.2	254.3	149.2	131.6	123.1	117.8	118.2	124.7	134.1	140.2
42.5°	2534.9	1777.7	215.6	143.5	124.7	116.1	110.0	113.7	116.6	126.3	130.4
45°	2839.7	1892.2	189.9	139.8	117.8	109.6	104.7	108.8	106.0	110.9	116.6
47.5°	3082.2	1992.0	170.8	130.8	113.3	106.0	99.8	98.6	93.7	95.0	100.3
50°	3215.5	1975.3	154.9	121.9	107.6	102.3	93.7	85.2	78.7	78.2	81.5
52.5°	3262.8	1886.1	141.8	114.1	100.7	94.1	84.4	72.5	66.0	64.0	66.8
55°	3275.8	1757.7	130.0	105.6	94.1	84.0	73.8	61.1	54.2	50.9	53.8
57.5°	3233.4	1560.1	118.6	97.4	86.4	74.2	63.2	50.1	43.6	39.5	42.0
60°	3128.7	1309.0	108.4	87.2	78.2	65.6	53.4	40.3	33.4	29.8	31.0
62.5°	2896.8	1026.2	97.4	77.8	69.7	57.5	44.8	31.8	25.3	22.0	22.4
65°	2543.9	764.9	84.8	68.9	61.9	49.7	35.9	24.5	19.2	16.3	15.9
67.5°	2026.7	518.4	72.1	59.5	55.0	42.0	28.5	19.2	15.1	13.0	12.2
70°	1191.2	261.2	59.9	51.3	47.3	35.0	22.4	15.5	13.9	12.2	11.4
72.5°	392.9	112.9	46.9	42.4	39.1	28.1	17.5	14.3	13.4	11.8	11.0
75°	136.9	65.2	34.6	32.6	31.0	21.2	14.7	13.0	13.0	11.4	10.2
77.5°	89.7	50.5	25.7	23.6	23.2	15.5	12.6	12.2	11.4	9.4	7.7
80°	74.6	28.5	17.9	16.7	16.3	9.8	10.2	9.0	6.9	4.1	1.6
82.5°	68.9	17.1	9.4	10.2	9.4	3.7	5.7	4.9	3.7	1.6	0.0
85°	40.3	7.7	5.3	5.3	4.1	0.8	2.9	2.9	1.6	0.4	0.0
87.5°	4.5	3.7	2.9	2.9	2.0	0.0	1.2	0.8	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)