

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: P596601

Luminaire Tested: **MSA-SA2B-827-U-T3-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596601  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2B-827-U-T3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5408 lumens  
Efficiency: N/A  
Efficacy: 63.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

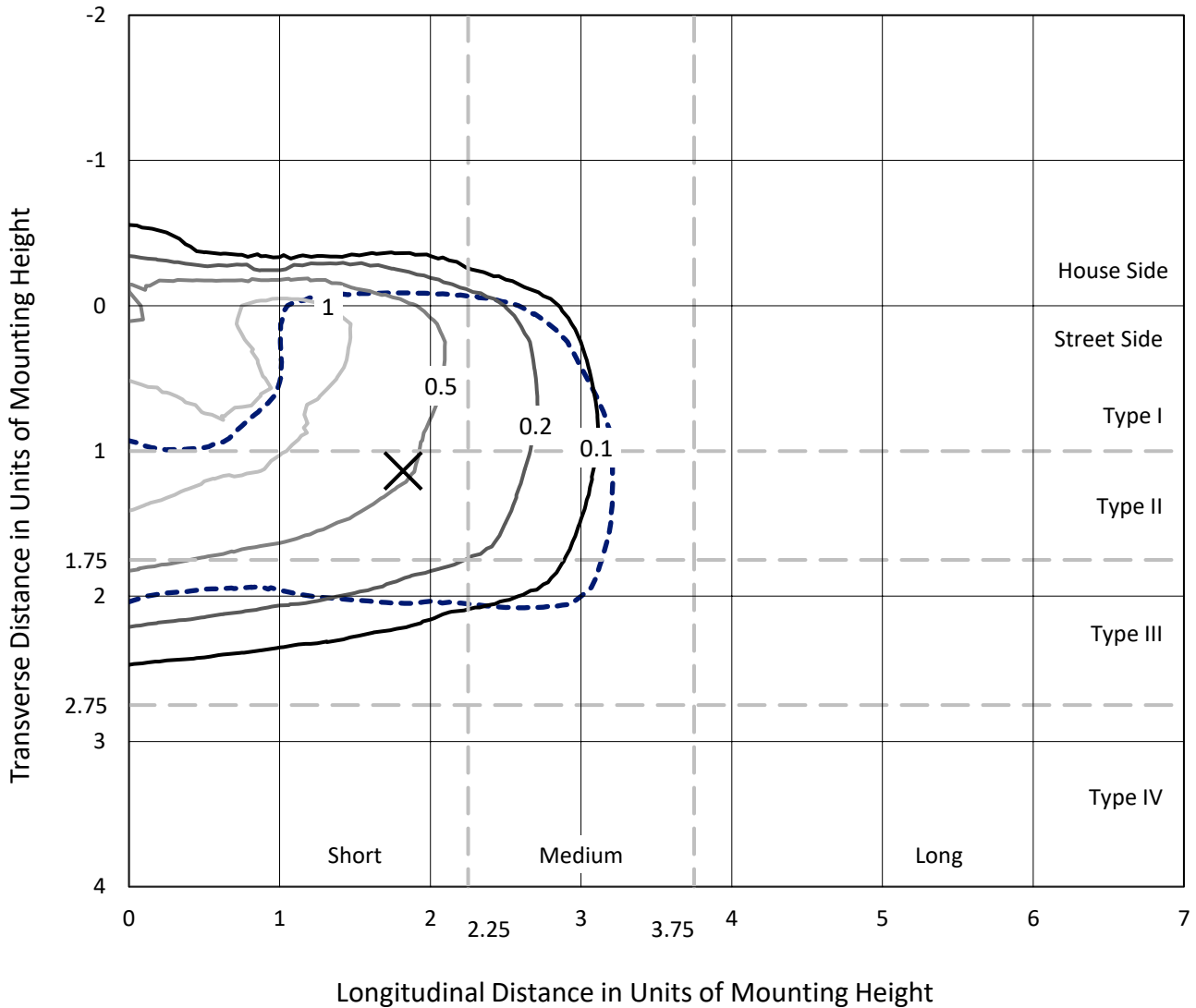
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

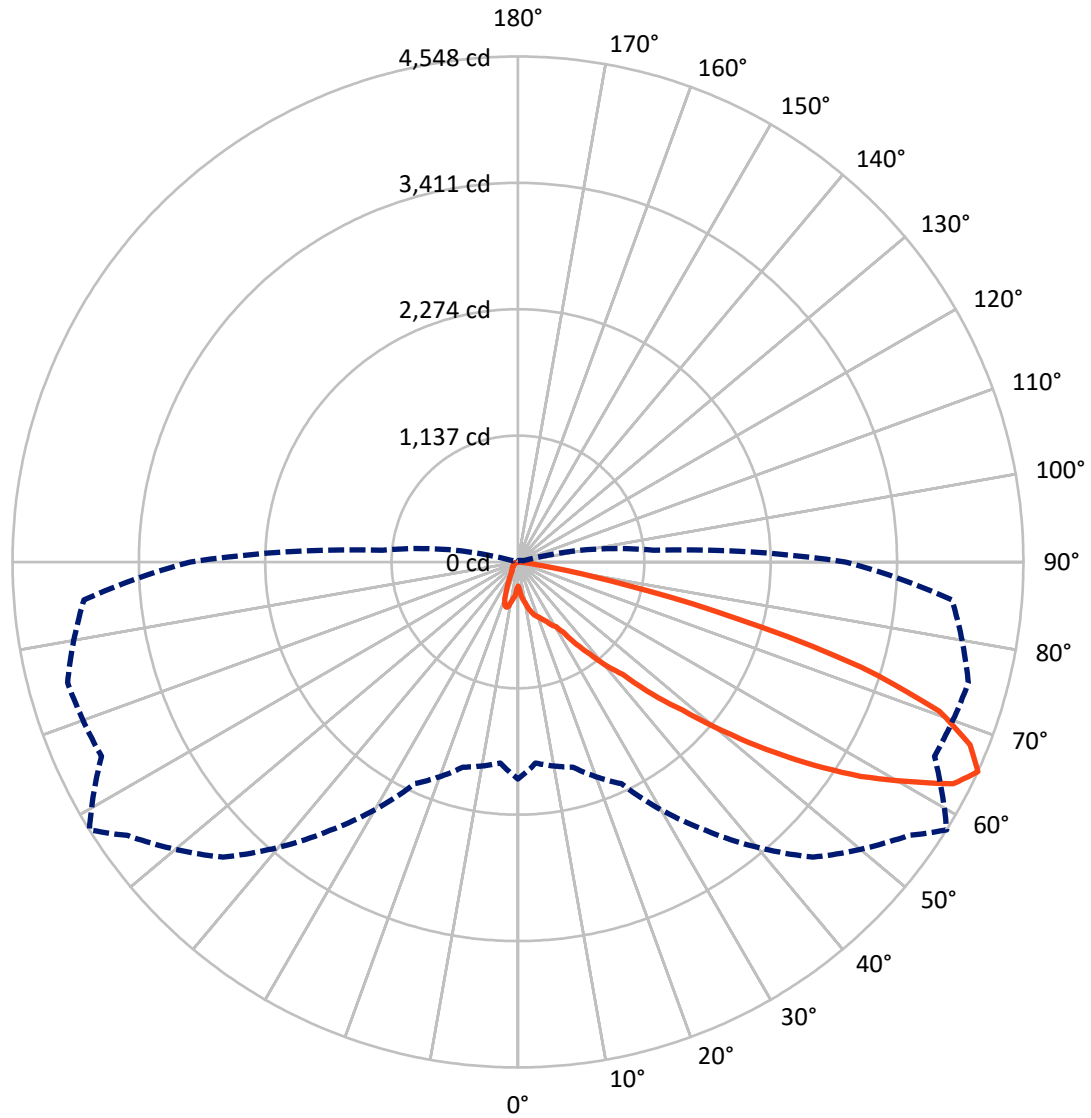
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.4 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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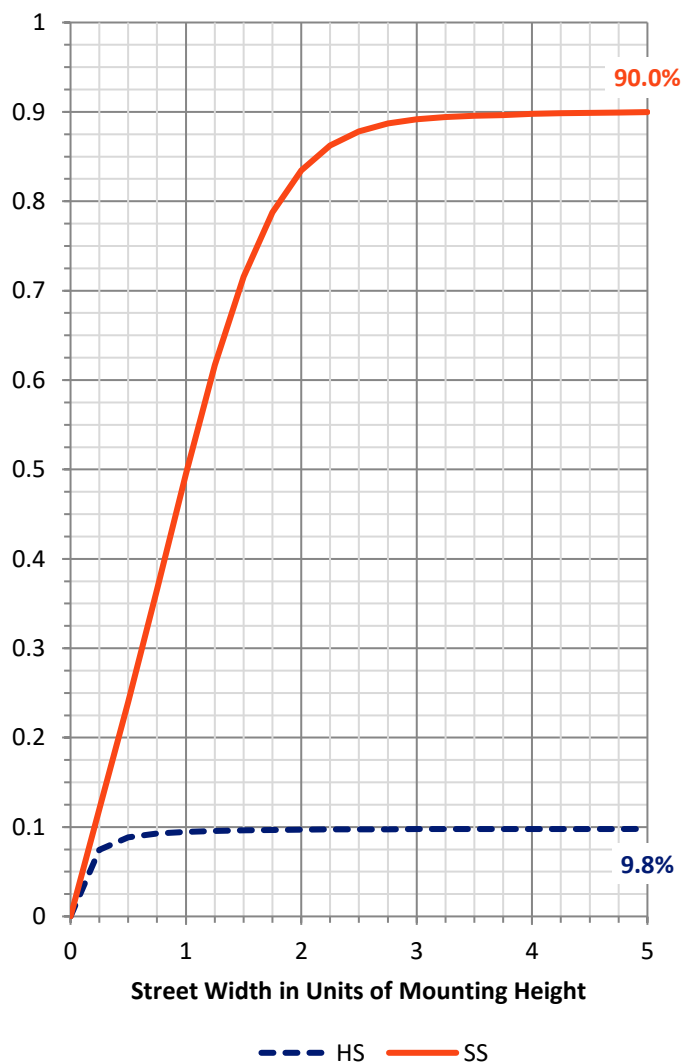
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	533.6	0.0	533.6
	% Fixture	9.9	0.0	9.9
<b>Street Side</b>	Lumens	4874.4	0.0	4874.4
	% Fixture	90.1	0.0	90.1
<b>Total</b>	Lumens	5408.0	0.0	5408.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.4	0.6
10°-20°	111.0	2.1
20°-30°	214.9	4.0
30°-40°	428.7	7.9
40°-50°	876.4	16.2
50°-60°	1554.5	28.7
60°-70°	1638.9	30.3
70°-80°	531.3	9.8
80°-90°	21.7	0.4
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°	5408.0	100.0
0°-180°	5408.0	100.0

**Coefficient of Utilization**



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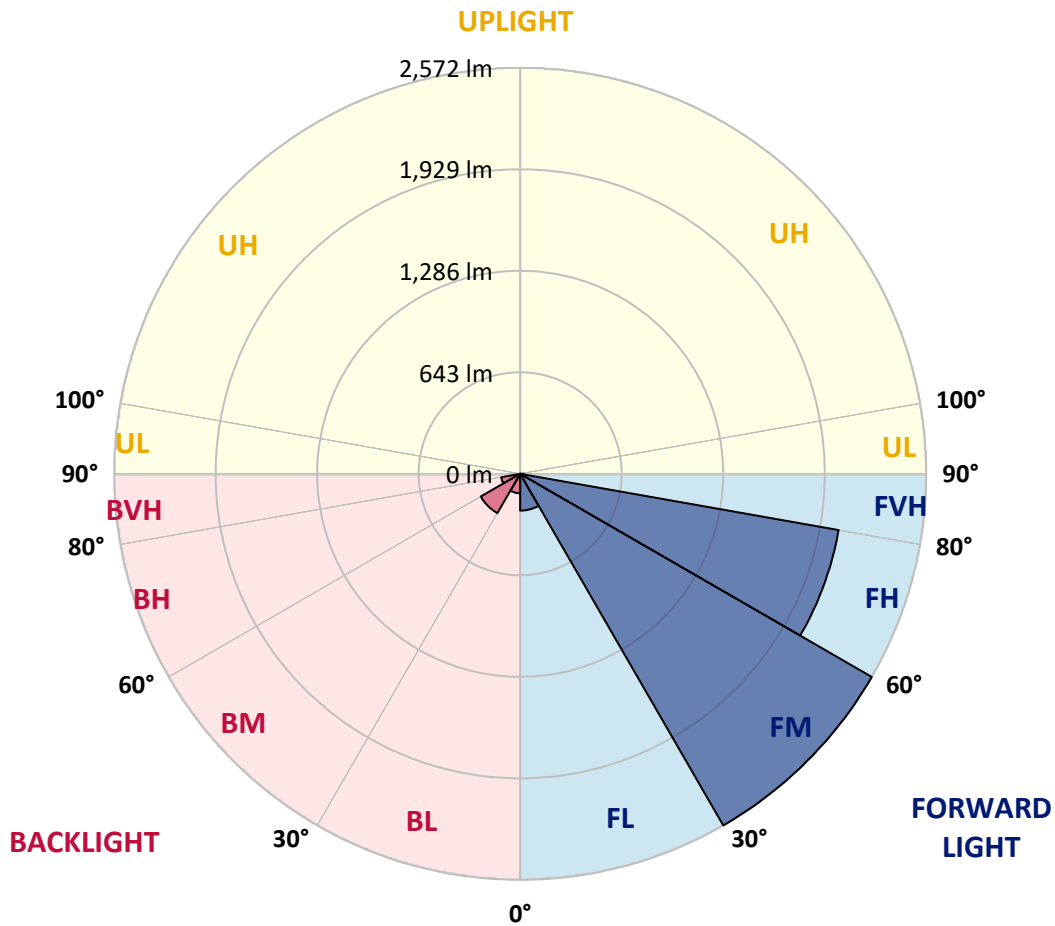
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	233.3	4.3			
FM (30°-60°)	2571.8	47.6			
FH (60°-80°)	2048.5	37.9			G2/5000
FVH (80°-90°)	20.8	0.4			G1/100
BL (0°-30°)	123.0	2.3	B1/500		
BM (30°-60°)	287.9	5.3	B1/1000		
BH (60°-80°)	121.8	2.3	B1/500		G1/500
BVH (80°-90°)	0.9	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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5
2.5°	264.3	256.4	243.9	246.0	248.5	253.3	249.4	245.7	241.8	236.6	256.4
5°	319.1	306.0	304.8	302.1	299.9	299.6	304.5	303.0	305.1	314.8	324.9
7.5°	339.2	333.7	323.4	327.6	320.9	315.8	337.4	344.4	357.8	362.3	388.5
10°	337.1	329.2	333.4	335.5	340.1	359.0	372.7	380.3	391.9	416.8	411.7
12.5°	346.8	353.8	358.4	358.7	382.1	416.8	426.6	433.0	453.7	463.4	489.0
15°	379.4	391.0	383.7	386.7	394.3	436.6	459.5	473.5	502.7	534.4	540.8
17.5°	426.0	433.3	418.1	407.1	428.1	451.3	492.7	507.3	525.8	599.8	613.5
20°	484.7	497.2	464.3	420.8	448.5	475.9	521.0	528.0	547.8	644.3	665.9
22.5°	622.1	603.5	553.3	485.4	477.1	489.3	532.2	559.6	593.1	669.3	719.5
25°	757.6	751.2	677.2	601.4	546.6	519.2	576.1	591.3	646.1	728.6	756.3
27.5°	908.3	921.1	797.5	751.5	644.0	554.5	603.5	641.6	706.4	750.3	816.9
30°	1107.1	1086.7	941.8	895.8	773.1	651.6	674.4	676.9	772.2	821.5	884.8
32.5°	1263.0	1276.1	1094.0	1023.4	925.3	801.1	727.7	759.4	827.6	937.5	997.5
35°	1431.7	1430.5	1253.0	1158.0	1029.8	923.2	885.8	908.9	994.5	1119.0	1134.8
37.5°	1683.8	1662.2	1452.7	1313.6	1204.6	1113.5	1084.9	1054.1	1142.4	1261.2	1320.6
40°	1921.6	1847.0	1653.4	1488.3	1348.9	1311.7	1208.2	1227.1	1253.3	1410.1	1574.2
42.5°	2161.9	2115.6	1856.8	1718.5	1547.1	1458.8	1391.2	1382.4	1506.9	1692.6	1862.2
45°	2478.8	2337.2	2130.2	2008.7	1810.2	1721.6	1667.1	1699.6	1811.7	2083.0	2196.0
47.5°	2745.0	2614.6	2436.8	2252.3	2044.0	2143.6	2041.3	1989.8	2143.6	2424.0	2574.1
50°	2973.6	2828.4	2648.4	2511.7	2477.9	2573.5	2366.5	2385.4	2485.2	2814.7	2899.3
52.5°	3139.9	2987.0	2829.9	2763.8	2902.4	2950.5	2846.7	2804.9	2895.7	3147.8	3188.9
55°	3265.0	3108.5	2985.8	3076.8	3344.8	3329.0	3365.5	3223.0	3309.8	3495.2	3475.7
57.5°	3272.6	3087.2	3015.3	3161.8	3529.6	3774.7	3881.6	3639.2	3688.6	3766.8	3723.0
60°	3033.3	2848.8	2843.0	3051.0	3583.2	3890.1	4124.0	4005.8	3939.8	3997.9	3914.8
62.5°	2556.5	2427.4	2487.7	2717.6	3383.8	3826.5	4253.1	4395.3	4138.0	4151.1	4032.9
65°	1952.1	1816.6	1911.0	2200.5	2947.7	3755.2	4289.6	4547.5	4134.3	4194.6	3919.7
67.5°	1292.9	1214.3	1321.2	1640.3	2343.6	3315.0	4270.7	4387.7	4003.1	4024.4	3499.2
70°	667.4	648.3	734.7	986.5	1575.7	2546.7	4085.3	4021.4	3736.7	3466.9	2699.0
72.5°	213.8	214.7	297.8	450.6	849.5	1550.5	3140.2	3227.9	2990.1	2536.1	1647.9
75°	94.7	93.2	124.5	189.1	354.1	695.1	1950.9	2045.5	1861.6	1395.2	692.7
77.5°	68.2	66.1	79.8	110.5	175.4	235.7	914.7	987.1	844.0	483.5	158.6
80°	48.1	47.8	57.9	77.6	109.6	104.7	289.0	324.0	259.4	117.2	46.6
82.5°	27.1	28.0	40.2	54.8	66.7	52.4	81.3	89.5	87.4	62.4	20.4
85°	13.1	14.6	26.2	39.6	35.0	20.4	28.9	31.4	36.5	36.2	10.4
87.5°	0.0	0.0	10.7	18.0	9.4	3.0	8.8	10.0	9.7	11.6	2.4
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°	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5
2.5°	260.3	258.5	235.4	237.2	242.4	240.2	242.1	237.8	232.9	252.7	252.4
5°	329.2	315.4	308.1	301.4	302.7	289.0	296.9	300.5	299.9	311.2	314.2
7.5°	389.4	371.2	356.6	342.5	321.2	302.1	313.9	321.5	326.7	346.2	353.8
10°	417.8	402.8	397.1	369.6	354.4	342.5	328.2	317.9	322.1	317.0	322.1
12.5°	479.9	469.8	447.6	419.9	401.6	377.3	324.0	279.5	252.1	252.4	250.6
15°	536.5	535.9	502.7	456.7	403.8	334.3	251.2	195.2	169.3	162.0	159.6
17.5°	610.5	601.4	540.8	472.9	377.6	258.8	171.1	133.7	131.2	135.5	133.7
20°	657.7	644.3	559.6	449.4	311.2	175.1	129.1	118.4	125.8	131.8	130.3
22.5°	704.9	684.8	574.0	420.8	221.4	128.2	116.6	114.8	119.4	127.0	128.2
25°	730.8	726.8	602.0	367.2	151.6	112.4	112.4	111.7	113.3	118.8	117.8
27.5°	806.0	752.4	581.0	286.5	117.2	103.2	104.7	104.1	98.7	104.1	104.4
30°	852.9	828.2	582.5	204.0	103.2	91.3	95.3	90.4	82.2	86.8	85.9
32.5°	947.3	885.8	577.9	137.6	94.1	87.1	81.0	74.0	67.9	69.7	68.2
35°	1057.2	1010.3	516.1	110.5	87.7	77.0	67.3	60.3	53.9	55.4	55.1
37.5°	1275.8	1126.9	465.0	99.6	83.4	70.6	59.4	49.6	46.3	47.2	48.1
40°	1478.3	1321.5	369.6	94.7	76.1	63.0	49.0	42.0	39.9	40.5	41.4
42.5°	1780.9	1476.2	279.2	89.8	68.8	53.3	40.8	36.2	34.1	35.3	35.9
45°	2073.9	1607.7	208.6	85.6	62.7	46.0	34.4	31.4	28.9	29.8	31.1
47.5°	2366.5	1753.8	155.6	78.9	56.0	39.6	29.5	27.4	25.9	26.2	27.7
50°	2628.3	1822.1	122.4	70.6	50.5	34.4	26.8	24.7	24.1	24.4	25.6
52.5°	2820.8	1822.7	103.2	63.3	45.4	30.4	25.3	22.8	22.5	23.1	24.4
55°	2994.6	1773.9	89.5	56.9	40.8	27.7	24.1	21.9	21.9	22.5	23.8
57.5°	3110.0	1684.4	77.6	50.2	36.8	26.2	23.1	21.0	20.7	20.4	21.3
60°	3166.4	1562.3	65.8	44.2	33.2	25.3	22.5	18.6	18.3	17.7	18.3
62.5°	3130.7	1409.5	55.1	38.1	29.5	24.1	19.8	16.1	15.5	14.3	15.2
65°	2948.7	1223.7	46.6	32.6	25.6	20.4	16.7	13.7	12.2	10.7	10.4
67.5°	2576.3	994.2	39.0	28.0	21.9	16.7	13.7	12.2	9.4	8.2	7.9
70°	1930.8	678.7	32.3	24.1	18.3	14.3	11.6	11.0	8.8	7.9	7.3
72.5°	1132.7	366.3	27.1	21.0	15.5	11.9	9.4	10.0	8.8	7.3	6.7
75°	452.5	121.8	21.6	16.7	12.5	8.5	7.9	8.2	7.9	6.7	5.5
77.5°	103.2	38.4	16.7	13.1	9.7	5.5	6.4	7.0	7.0	5.5	4.0
80°	32.3	15.2	9.7	8.2	7.0	3.0	4.6	4.9	3.3	1.5	0.0
82.5°	10.4	4.3	3.3	3.3	3.0	0.6	0.9	0.6	0.0	0.0	0.0
85°	4.0	2.7	2.1	2.1	1.2	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	1.5	1.2	0.9	1.2	0.6	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)