

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: P596755

Luminaire Tested: **MSA-SA4A-827-U-T3-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596755  
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-SA4A-827-U-T3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 8416 lumens  
Efficiency: N/A  
Efficacy: 65.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

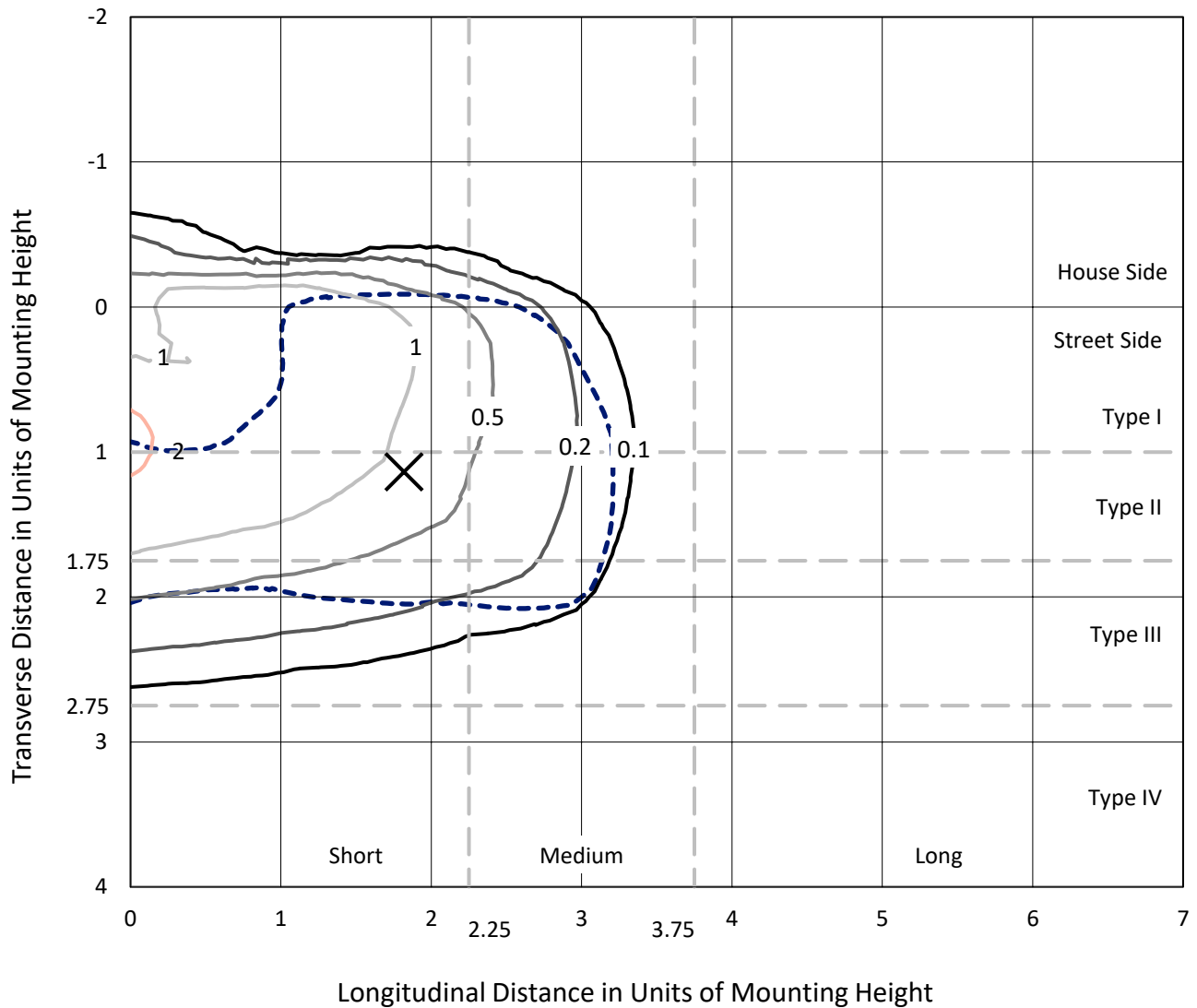
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

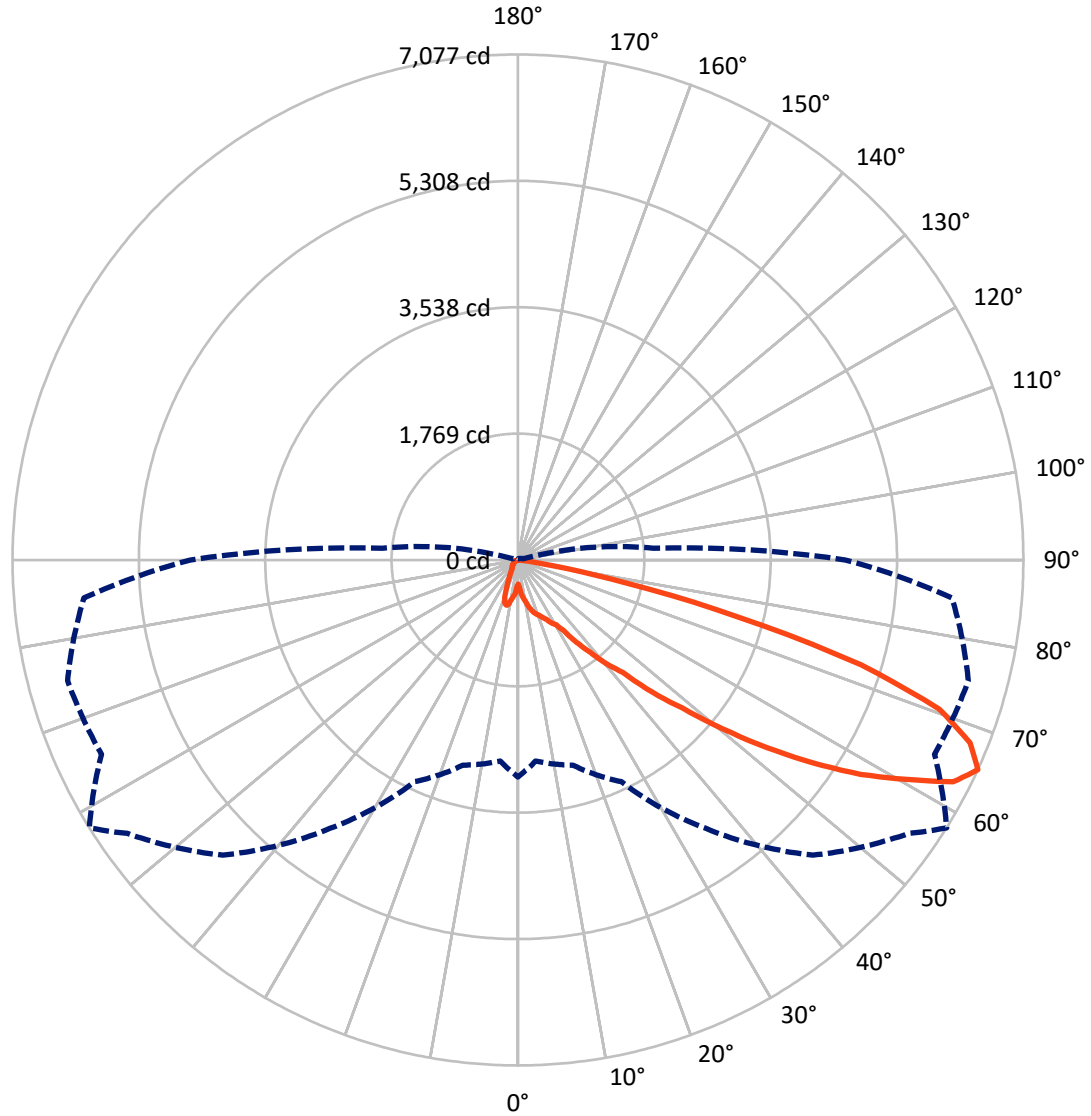
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.2 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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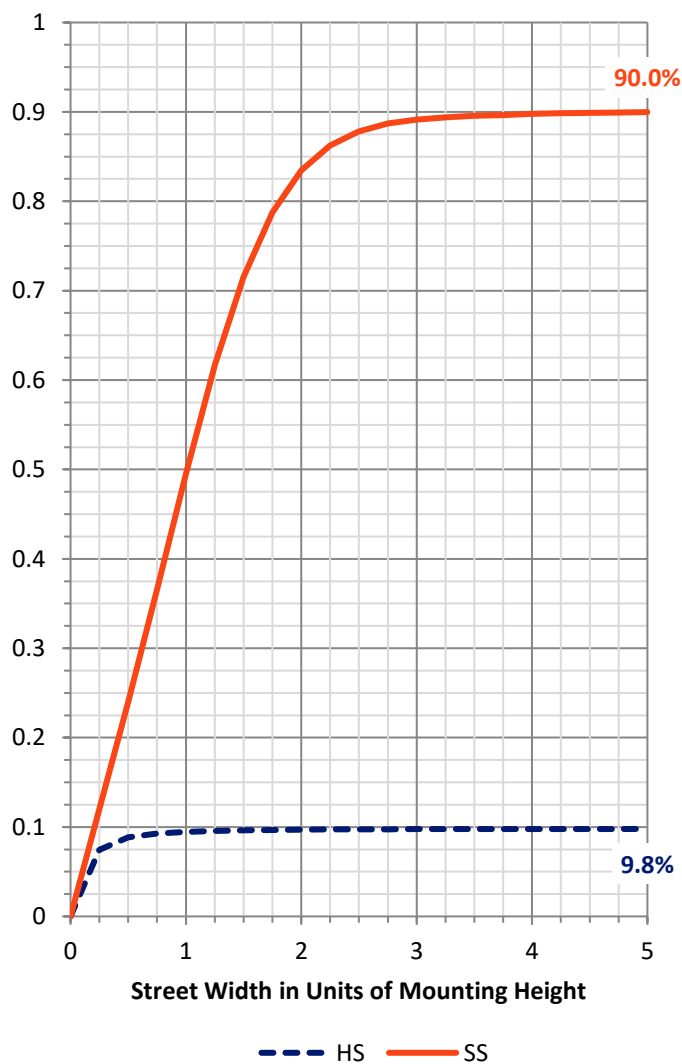
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	830.4	0.0	830.4
	% Fixture	9.9	0.0	9.9
<b>Street Side</b>	Lumens	7585.6	0.0	7585.6
	% Fixture	90.1	0.0	90.1
<b>Total</b>	Lumens	8416.0	0.0	8416.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.3	0.6
10°-20°	172.8	2.1
20°-30°	334.4	4.0
30°-40°	667.2	7.9
40°-50°	1363.9	16.2
50°-60°	2419.2	28.7
60°-70°	2550.5	30.3
70°-80°	826.9	9.8
80°-90°	33.8	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°	8416.0	100.0
0°-180°	8416.0	100.0

**Coefficient of Utilization**



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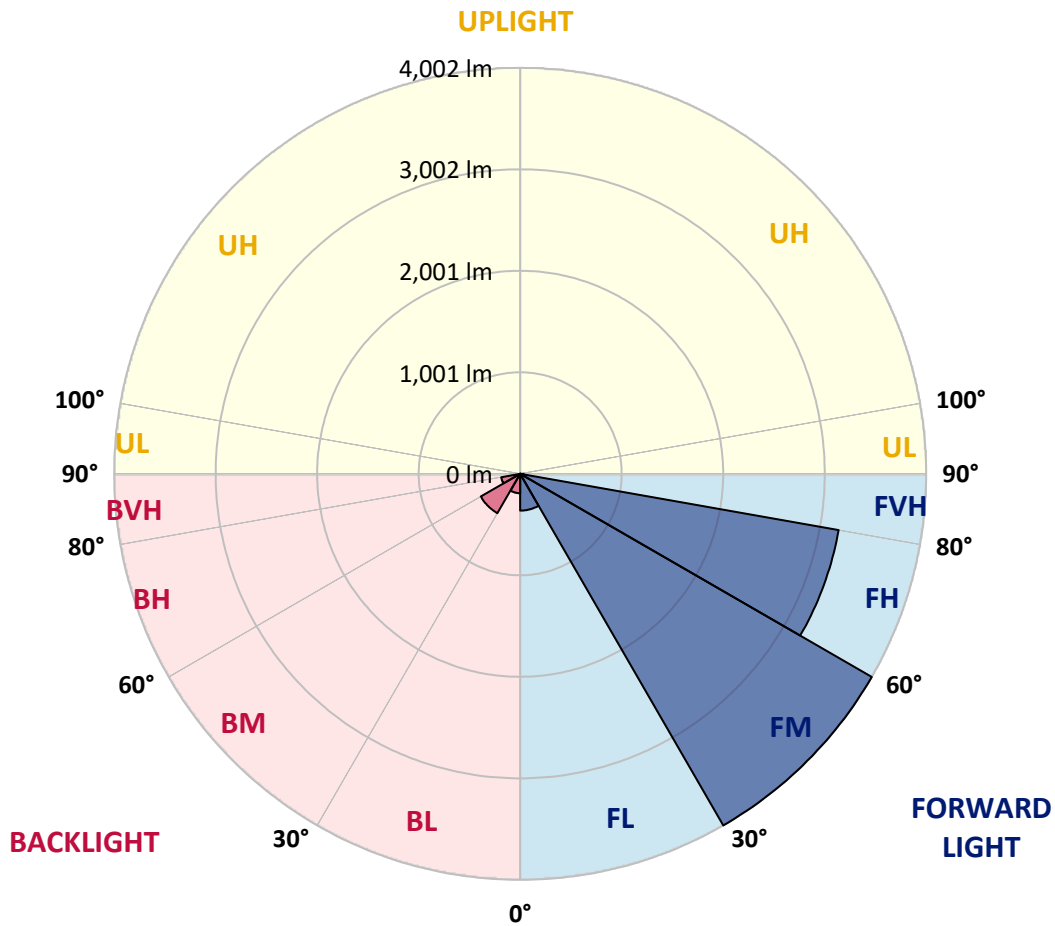
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	363.1	4.3			
FM (30°-60°)	4002.2	47.6			
FH (60°-80°)	3187.9	37.9			G2/5000
FVH (80°-90°)	32.4	0.4			G1/100
BL (0°-30°)	191.4	2.3	B1/500		
BM (30°-60°)	448.1	5.3	B1/1000		
BH (60°-80°)	189.5	2.3	B1/500		G1/500
BVH (80°-90°)	1.4	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°	336.9	336.9	336.9	336.9	336.9	336.9	336.9	336.9	336.9	336.9	336.9
2.5°	411.3	399.0	379.6	382.9	386.7	394.2	388.1	382.4	376.2	368.2	399.0
5°	496.6	476.2	474.3	470.1	466.7	466.3	473.8	471.5	474.8	490.0	505.6
7.5°	527.9	519.3	503.2	509.9	499.4	491.4	525.0	535.9	556.8	563.9	604.6
10°	524.5	512.2	518.9	522.2	529.3	558.7	580.0	591.8	609.8	648.7	640.6
12.5°	539.7	550.6	557.7	558.2	594.7	648.7	663.9	673.8	706.0	721.2	761.0
15°	590.4	608.4	597.0	601.8	613.6	679.5	715.0	736.8	782.3	831.6	841.6
17.5°	662.9	674.3	650.6	633.5	666.2	702.2	766.7	789.4	818.3	933.5	954.8
20°	754.4	773.8	722.6	654.9	698.0	740.6	810.8	821.7	852.5	1002.7	1036.3
22.5°	968.1	939.2	861.0	755.3	742.5	761.5	828.3	870.9	923.1	1041.5	1119.7
25°	1178.9	1169.0	1053.8	935.8	850.6	807.9	896.5	920.2	1005.5	1133.9	1177.0
27.5°	1413.5	1433.4	1241.0	1169.5	1002.2	862.9	939.2	998.4	1099.3	1167.6	1271.3
30°	1722.9	1691.2	1465.6	1394.1	1203.1	1014.0	1049.6	1053.4	1201.7	1278.4	1377.0
32.5°	1965.5	1985.9	1702.5	1592.6	1440.0	1246.7	1132.5	1181.8	1287.9	1459.0	1552.3
35°	2228.0	2226.1	1949.9	1802.0	1602.6	1436.7	1378.4	1414.4	1547.6	1741.4	1766.0
37.5°	2620.4	2586.7	2260.7	2044.2	1874.5	1732.9	1688.3	1640.5	1777.9	1962.7	2055.1
40°	2990.5	2874.4	2573.0	2316.2	2099.1	2041.3	1880.2	1909.6	1950.4	2194.4	2449.8
42.5°	3364.3	3292.3	2889.5	2674.4	2407.6	2270.2	2165.0	2151.3	2345.1	2634.1	2898.1
45°	3857.6	3637.3	3315.0	3126.0	2817.0	2679.1	2594.3	2645.0	2819.4	3241.6	3417.4
47.5°	4271.7	4068.9	3792.2	3505.0	3180.9	3335.9	3176.7	3096.6	3335.9	3772.3	4005.9
50°	4627.6	4401.6	4121.5	3908.8	3856.2	4005.0	3682.7	3712.1	3867.5	4380.2	4512.0
52.5°	4886.3	4648.4	4403.9	4301.1	4516.7	4591.6	4430.0	4365.1	4506.3	4898.6	4962.6
55°	5081.1	4837.5	4646.5	4788.2	5205.2	5180.6	5237.4	5015.7	5150.7	5439.3	5409.0
57.5°	5092.9	4804.3	4692.5	4920.4	5492.8	5874.3	6040.6	5663.4	5740.2	5862.0	5793.7
60°	4720.5	4433.3	4424.3	4748.0	5576.2	6053.9	6417.8	6233.9	6131.1	6221.6	6092.3
62.5°	3978.4	3777.5	3871.3	4229.1	5265.9	5954.8	6618.7	6840.0	6439.6	6460.0	6276.1
65°	3037.8	2827.0	2973.9	3424.5	4587.3	5844.0	6675.6	7076.9	6433.9	6527.7	6099.8
67.5°	2012.0	1889.7	2056.0	2552.6	3647.2	5158.8	6646.2	6828.1	6229.7	6262.8	5445.5
70°	1038.7	1008.8	1143.4	1535.3	2452.2	3963.3	6357.6	6258.1	5815.1	5395.2	4200.2
72.5°	332.6	334.1	463.4	701.3	1322.0	2412.8	4886.8	5023.3	4653.2	3946.7	2564.5
75°	147.4	145.0	193.8	294.3	551.1	1081.8	3035.9	3183.3	2897.1	2171.2	1078.0
77.5°	106.1	102.8	124.1	172.0	272.9	366.8	1423.4	1536.2	1313.5	752.5	246.9
80°	74.9	74.4	90.0	120.8	170.6	163.0	449.7	504.2	403.7	182.4	72.5
82.5°	42.2	43.6	62.5	85.3	103.8	81.5	126.5	139.3	136.0	97.1	31.7
85°	20.4	22.7	40.8	61.6	54.5	31.7	45.0	48.8	56.9	56.4	16.1
87.5°	0.0	0.0	16.6	28.0	14.7	4.7	13.7	15.6	15.2	18.0	3.8
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°	336.9	336.9	336.9	336.9	336.9	336.9	336.9	336.9	336.9	336.9	336.9
2.5°	405.1	402.3	366.3	369.1	377.2	373.9	376.7	370.1	362.5	393.3	392.8
5°	512.2	490.9	479.5	469.1	471.0	449.7	462.0	467.7	466.7	484.3	489.0
7.5°	606.1	577.6	554.9	533.1	499.9	470.1	488.5	500.4	508.4	538.8	550.6
10°	650.1	626.9	617.9	575.3	551.6	533.1	510.8	494.7	501.3	493.3	501.3
12.5°	746.8	731.1	696.6	653.4	625.0	587.1	504.2	435.0	392.3	392.8	390.0
15°	834.9	834.0	782.3	710.8	628.3	520.3	390.9	303.7	263.5	252.1	248.3
17.5°	950.1	935.8	841.6	735.9	587.6	402.8	266.3	208.0	204.2	210.9	208.0
20°	1023.5	1002.7	870.9	699.4	484.3	272.5	200.9	184.3	195.7	205.2	202.8
22.5°	1097.0	1065.7	893.2	654.9	344.5	199.5	181.5	178.6	185.7	197.6	199.5
25°	1137.2	1131.1	936.8	571.5	236.0	174.8	174.8	173.9	176.3	184.8	183.4
27.5°	1254.3	1170.9	904.1	445.9	182.4	160.6	163.0	162.1	153.5	162.1	162.5
30°	1327.2	1288.9	906.5	317.5	160.6	142.2	148.3	140.7	127.9	135.0	133.6
32.5°	1474.1	1378.4	899.4	214.2	146.4	135.5	126.0	115.1	105.7	108.5	106.1
35°	1645.2	1572.2	803.2	172.0	136.5	119.9	104.7	93.8	83.9	86.2	85.8
37.5°	1985.4	1753.7	723.6	154.9	129.8	109.9	92.4	77.2	72.0	73.4	74.9
40°	2300.5	2056.5	575.3	147.4	118.5	98.1	76.3	65.4	62.1	63.0	64.4
42.5°	2771.5	2297.2	434.5	139.8	107.1	82.9	63.5	56.4	53.1	55.0	55.9
45°	3227.4	2501.9	324.6	133.2	97.6	71.6	53.5	48.8	45.0	46.4	48.3
47.5°	3682.7	2729.4	242.1	122.7	87.2	61.6	46.0	42.6	40.3	40.8	43.1
50°	4090.3	2835.5	190.5	109.9	78.7	53.5	41.7	38.4	37.4	37.9	39.8
52.5°	4389.7	2836.5	160.6	98.6	70.6	47.4	39.3	35.5	35.1	36.0	37.9
55°	4660.3	2760.6	139.3	88.6	63.5	43.1	37.4	34.1	34.1	35.1	37.0
57.5°	4839.9	2621.3	120.8	78.2	57.3	40.8	36.0	32.7	32.2	31.7	33.2
60°	4927.5	2431.3	102.4	68.7	51.6	39.3	35.1	28.9	28.4	27.5	28.4
62.5°	4872.1	2193.4	85.8	59.2	46.0	37.4	30.8	25.1	24.2	22.3	23.7
65°	4588.7	1904.4	72.5	50.7	39.8	31.7	26.1	21.3	19.0	16.6	16.1
67.5°	4009.2	1547.1	60.7	43.6	34.1	26.1	21.3	19.0	14.7	12.8	12.3
70°	3004.7	1056.2	50.2	37.4	28.4	22.3	18.0	17.1	13.7	12.3	11.4
72.5°	1762.7	570.0	42.2	32.7	24.2	18.5	14.7	15.6	13.7	11.4	10.4
75°	704.1	189.5	33.6	26.1	19.4	13.3	12.3	12.8	12.3	10.4	8.5
77.5°	160.6	59.7	26.1	20.4	15.2	8.5	10.0	10.9	10.9	8.5	6.2
80°	50.2	23.7	15.2	12.8	10.9	4.7	7.1	7.6	5.2	2.4	0.0
82.5°	16.1	6.6	5.2	5.2	4.7	0.9	1.4	0.9	0.0	0.0	0.0
85°	6.2	4.3	3.3	3.3	1.9	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	2.4	1.9	1.4	1.9	0.9	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)