

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: P368585

Luminaire Tested: **MSA-SA4D-727-U-SL3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368585  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-727-U-SL3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS  
EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 18067 lumens  
Efficiency: N/A  
Efficacy: 69.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G3

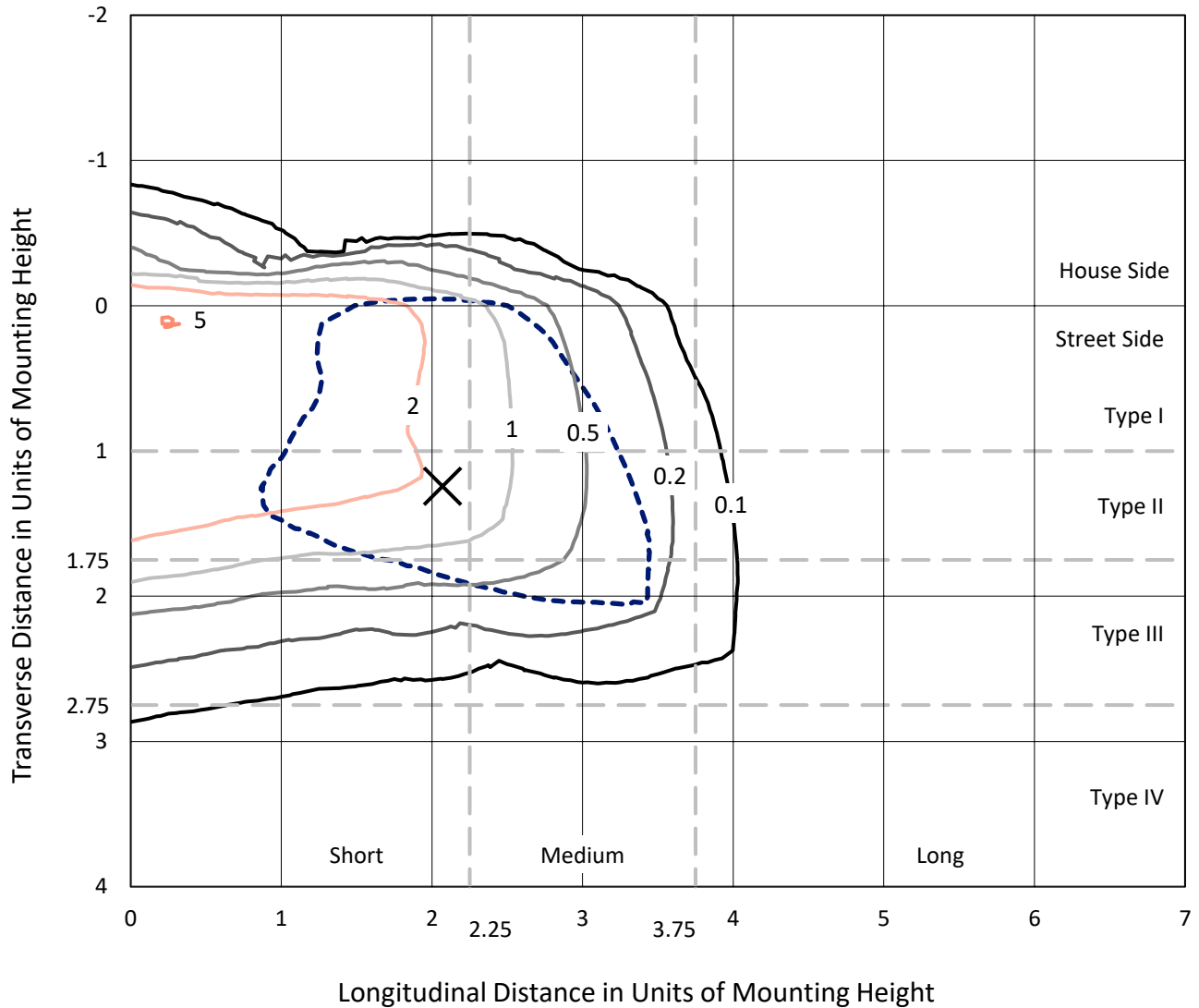
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

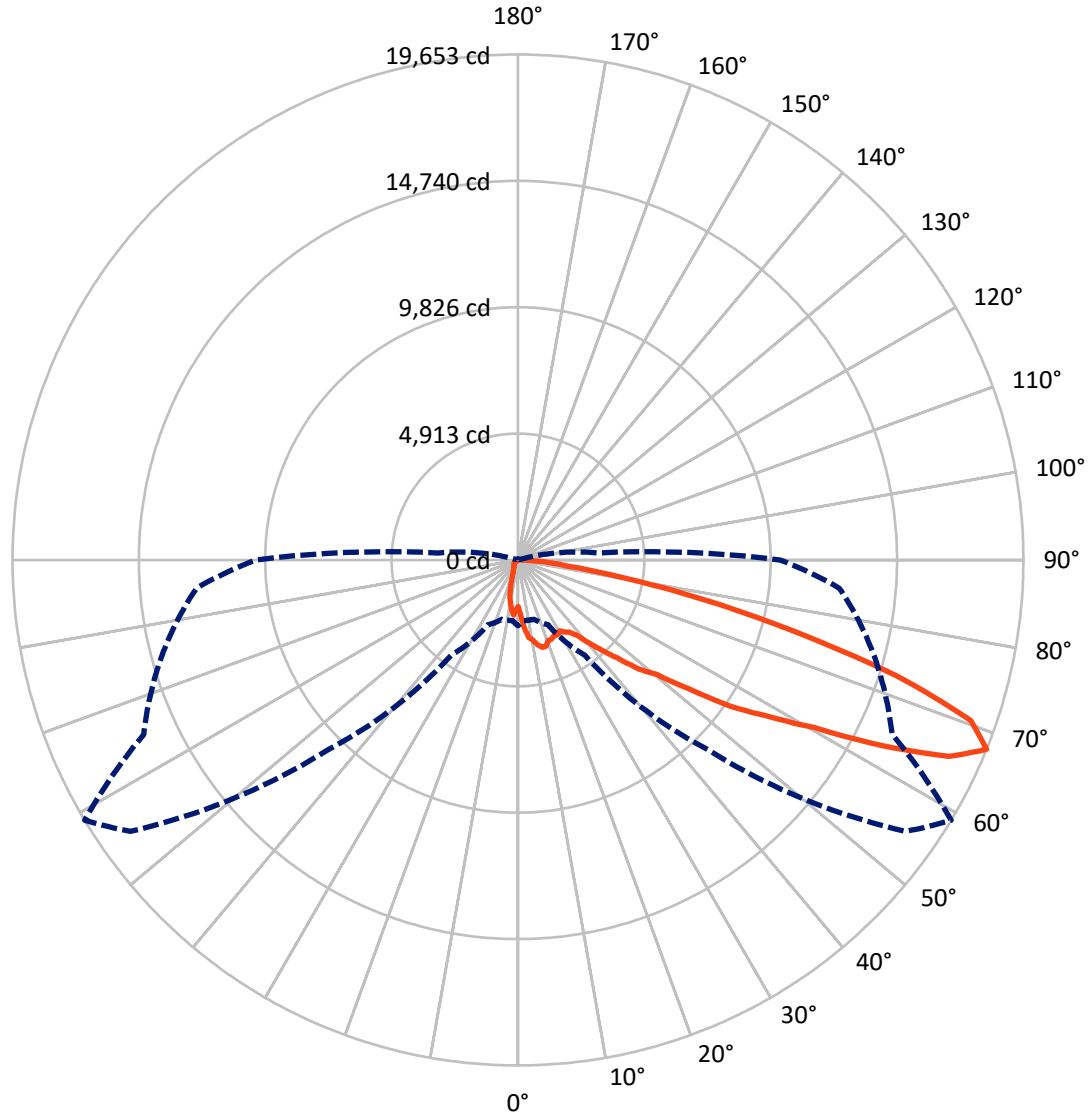
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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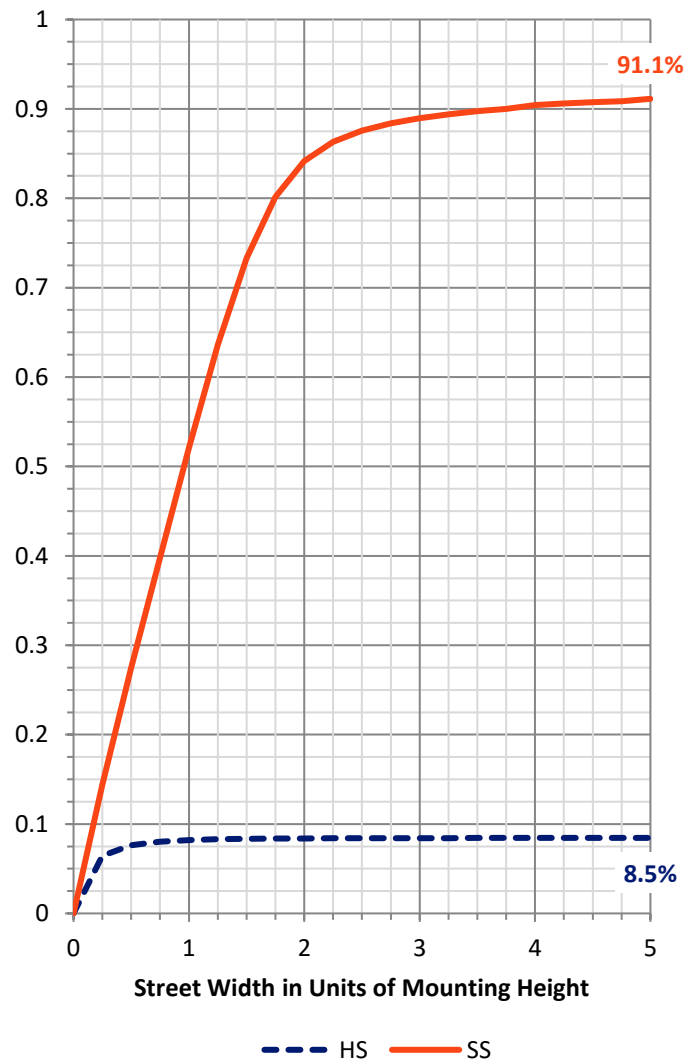
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1536.5	0.0	1536.5
	% Fixture	8.5	0.0	8.5
<b>Street Side</b>	Lumens	16530.5	0.0	16530.5
	% Fixture	91.5	0.0	91.5
<b>Total</b>	Lumens	18067.0	0.0	18067.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.8	1.2
10°-20°	618.9	3.4
20°-30°	920.5	5.1
30°-40°	1420.2	7.9
40°-50°	2534.6	14.0
50°-60°	4510.3	25.0
60°-70°	5253.0	29.1
70°-80°	2336.1	12.9
80°-90°	253.7	1.4
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°	18067.0	100.0
0°-180°	18067.0	100.0



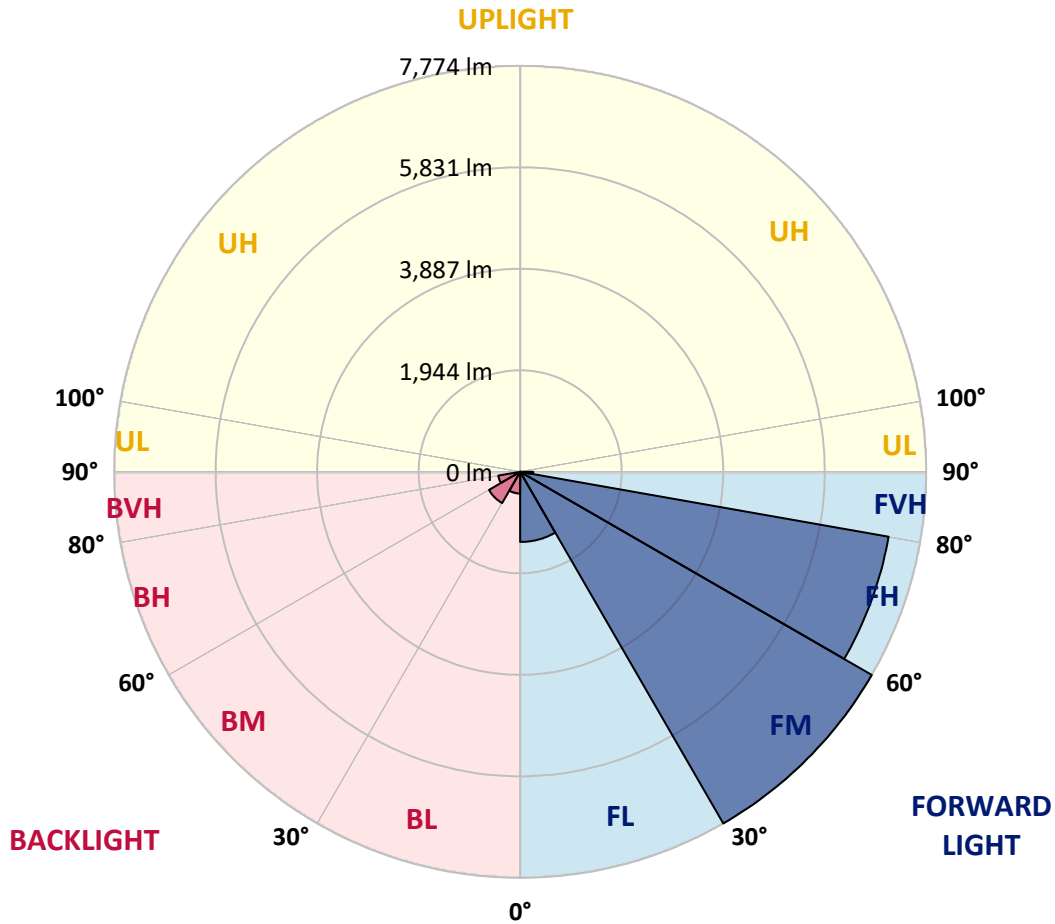
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1343.7	7.4			
FM (30°-60°)	7774.2	43.0			
FH (60°-80°)	7163.4	39.6			G3/7500
FVH (80°-90°)	249.2	1.4			G3/500
BL (0°-30°)	415.5	2.3	B1/500		
BM (30°-60°)	690.8	3.8	B1/1000		
BH (60°-80°)	425.6	2.4	B1/500		G1/500
BVH (80°-90°)	4.5	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-G3**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7
2.5°	2356.5	2267.8	2141.6	2179.1	2212.9	2244.9	2191.9	2161.7	2147.1	2017.2	2180.0
5°	2893.5	2782.8	2725.2	2710.6	2674.0	2592.6	2728.0	2667.6	2687.7	2713.3	2766.4
7.5°	3057.3	3007.0	2923.7	2954.8	2815.8	2803.9	2991.4	3043.6	3112.2	3065.5	3129.6
10°	2973.1	2886.2	2925.6	2914.6	2909.1	3031.7	3163.4	3166.2	3268.6	3318.0	3101.2
12.5°	2806.6	2816.7	2957.6	2946.6	3129.6	3374.7	3404.9	3372.9	3540.3	3454.3	3421.4
15°	2917.3	2999.7	2921.9	2948.4	3013.4	3319.8	3426.9	3525.7	3683.9	3735.2	3512.9
17.5°	3050.9	3059.1	2917.3	2884.4	3048.1	3190.9	3443.3	3524.8	3540.3	3989.5	3718.7
20°	2978.6	3049.1	2879.8	2672.2	2926.5	3120.4	3376.6	3350.9	3455.2	4064.5	3765.4
22.5°	3170.7	3070.1	2853.3	2696.9	2782.8	2959.4	3176.2	3343.6	3500.1	3885.2	3825.7
25°	3189.0	3152.4	2959.4	2820.4	2805.7	2850.5	3152.4	3260.4	3505.5	4046.2	3774.5
27.5°	3394.9	3352.8	2957.6	2971.3	2834.1	2695.9	3037.2	3290.6	3605.3	3948.3	3883.4
30°	3660.1	3663.8	3154.3	3197.3	3001.5	2779.2	3131.4	3200.9	3673.0	4104.7	3963.9
32.5°	3929.1	4039.8	3543.1	3315.3	3254.0	3094.8	3014.3	3335.4	3598.9	4371.9	4165.1
35°	4338.0	4413.0	3863.2	3659.2	3418.6	3237.5	3332.6	3447.9	3865.1	4725.9	4429.5
37.5°	5030.5	4895.1	4437.7	4082.8	4025.2	3758.0	3805.6	3702.2	4136.8	5143.1	4952.8
40°	5420.2	5297.7	4822.0	4649.1	4281.3	4322.5	4172.4	4232.8	4531.0	5577.6	5429.4
42.5°	5826.4	5709.3	5292.2	5169.6	4819.2	4649.1	4581.4	4798.2	5135.7	6301.2	6112.7
45°	6234.4	5937.1	5760.5	5821.8	5664.5	5327.8	5249.2	5442.2	5796.2	7190.4	6833.6
47.5°	6578.4	6327.7	6195.1	6166.7	6105.4	6572.9	6252.7	6337.8	6494.2	7977.1	7732.0
50°	7198.6	6951.6	6744.0	6686.3	6984.6	7647.8	7153.8	6989.1	7302.0	8927.6	8773.0
52.5°	8094.2	7779.5	7449.3	7450.2	8012.8	8376.9	8611.1	8322.0	8380.6	9973.2	9904.6
55°	8814.2	8414.4	8140.9	8356.8	9195.7	9399.7	10293.4	10040.0	9964.1	10942.9	10858.8
57.5°	8913.0	8433.6	8303.7	8682.4	9830.5	11133.2	12094.7	11461.6	11345.5	11754.4	11921.8
60°	7990.9	7482.2	7580.1	8189.4	10037.3	12189.8	13748.7	13231.8	12493.5	12704.9	12820.1
62.5°	5960.0	5553.8	5828.2	6635.1	9240.5	12897.9	15663.3	15903.0	13825.5	13418.4	13393.7
65°	3866.9	3612.6	3792.8	4454.2	6992.8	12817.4	17374.0	18413.3	14874.8	14000.2	13573.9
67.5°	2557.8	2364.8	2390.4	2781.9	4521.9	10424.2	18396.8	19652.8	16054.9	14330.5	12541.1
70°	1906.5	1754.6	1763.8	1976.0	2684.0	6874.8	16970.6	18674.9	16485.8	13186.0	10122.4
72.5°	1375.0	1273.4	1358.5	1594.5	2138.8	3635.4	12649.1	15379.8	14375.3	10400.5	6819.9
75°	952.3	885.5	1024.6	1333.8	1952.2	2256.8	8358.6	11071.0	10075.7	6525.3	3082.9
77.5°	527.8	507.7	708.1	1086.8	1772.0	1849.7	5120.2	7274.6	5588.6	2339.2	733.7
80°	230.5	223.2	343.1	816.0	1489.3	1671.4	2882.6	4033.4	2198.3	417.2	236.9
82.5°	98.8	95.1	146.4	491.3	1082.2	1397.8	1777.5	1941.2	756.5	129.0	134.5
85°	17.4	19.2	58.5	258.9	658.7	709.9	1287.1	1149.0	380.6	61.3	96.1
87.5°	0.0	0.0	9.1	50.3	123.5	203.1	558.0	402.5	72.3	20.1	16.5
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°	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7	1807.7
2.5°	2202.9	2151.6	1956.8	1932.1	1905.5	1866.2	1851.6	1767.4	1756.4	1864.4	1864.4
5°	2741.7	2558.7	2373.0	2226.6	2095.8	1914.7	1863.5	1810.4	1767.4	1756.4	1790.3
7.5°	3026.2	2803.0	2511.1	2138.8	1836.9	1574.4	1464.6	1387.8	1301.8	1327.4	1341.1
10°	3010.6	2773.7	2401.4	1922.9	1588.1	1298.1	1019.1	856.3	765.7	720.9	715.4
12.5°	3163.4	2940.2	2327.3	1750.9	1323.7	923.0	641.3	525.1	458.3	459.2	453.7
15°	3252.1	3008.8	2241.3	1533.2	932.2	593.7	444.6	419.0	409.8	419.9	414.4
17.5°	3408.6	3081.1	2046.4	1208.5	641.3	448.3	408.9	398.9	410.7	431.8	426.3
20°	3396.7	2955.7	1769.2	851.7	473.9	403.4	387.0	371.4	396.1	418.1	414.4
22.5°	3385.7	2833.2	1508.5	628.5	396.1	367.8	354.0	347.6	360.4	386.0	391.5
25°	3288.7	2772.8	1244.1	472.0	358.6	333.9	327.5	322.0	326.6	347.6	346.7
27.5°	3407.7	2620.0	960.5	396.1	332.1	302.8	297.3	288.2	279.0	297.3	300.1
30°	3383.0	2641.1	752.9	348.5	305.5	266.2	268.0	248.8	232.4	248.8	248.8
32.5°	3472.6	2487.4	602.9	316.5	279.0	250.7	227.8	207.7	195.8	205.8	207.7
35°	3603.4	2493.8	472.0	296.4	256.1	223.2	195.8	175.6	164.7	169.2	172.0
37.5°	4041.6	2449.9	394.3	280.8	247.9	206.7	178.4	151.9	144.5	150.0	152.8
40°	4327.0	2567.0	347.6	272.6	226.9	190.3	152.8	133.6	127.2	129.9	134.5
42.5°	4865.0	2631.9	324.8	263.5	207.7	162.8	130.8	119.8	110.7	114.4	118.0
45°	5440.4	2742.6	307.4	253.4	193.0	142.7	115.3	106.1	94.2	95.1	98.8
47.5°	6147.5	3006.1	287.2	236.0	172.9	129.9	102.5	88.7	77.8	76.8	81.4
50°	7097.1	3358.3	269.0	214.1	160.1	118.9	89.7	72.3	63.1	60.4	64.0
52.5°	8110.7	3813.8	249.7	198.5	144.5	104.3	76.8	58.5	50.3	48.5	51.2
55°	9115.2	4251.1	231.4	188.5	128.1	89.7	65.0	48.5	41.2	39.3	41.2
57.5°	10259.6	4724.1	207.7	168.3	112.5	77.8	54.0	40.3	33.8	32.0	32.9
60°	11121.3	4890.6	187.5	146.4	97.9	68.6	45.7	32.0	27.4	25.6	26.5
62.5°	11530.2	4618.9	168.3	127.2	86.0	59.5	38.4	26.5	22.9	21.0	21.0
65°	11424.1	4016.9	149.1	108.9	74.1	49.4	30.2	22.9	20.1	17.4	16.5
67.5°	10198.3	3143.3	127.2	91.5	62.2	40.3	25.6	22.0	18.3	16.5	13.7
70°	8087.8	2276.0	103.4	75.9	52.1	32.9	20.1	20.1	17.4	16.5	12.8
72.5°	5301.3	1432.6	84.2	61.3	43.0	25.6	15.6	18.3	16.5	16.5	11.9
75°	2297.1	512.3	67.7	49.4	35.7	17.4	13.7	16.5	17.4	16.5	13.7
77.5°	537.9	159.2	53.1	39.3	29.3	11.9	13.7	16.5	17.4	15.6	11.9
80°	202.2	67.7	34.8	25.6	22.9	7.3	11.9	10.1	9.1	6.4	1.8
82.5°	122.6	28.4	18.3	12.8	11.0	1.8	5.5	3.7	1.8	1.8	0.0
85°	86.9	13.7	10.1	9.1	5.5	0.0	0.9	0.0	0.0	0.9	0.0
87.5°	11.9	3.7	4.6	4.6	3.7	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)