

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: P368586

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

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368586
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)
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
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21588 lumens
Efficiency: N/A
Efficacy: 83.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G4

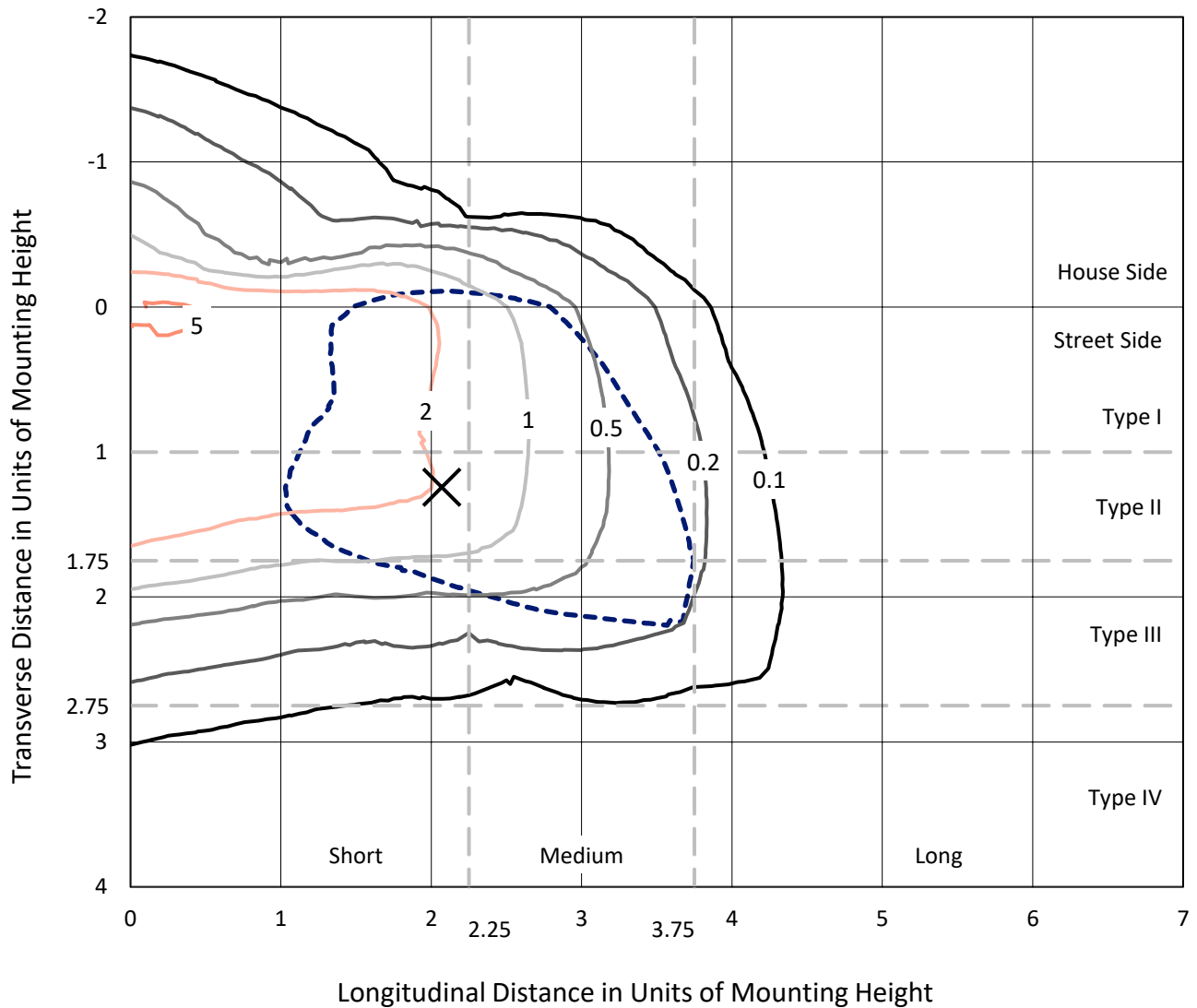
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

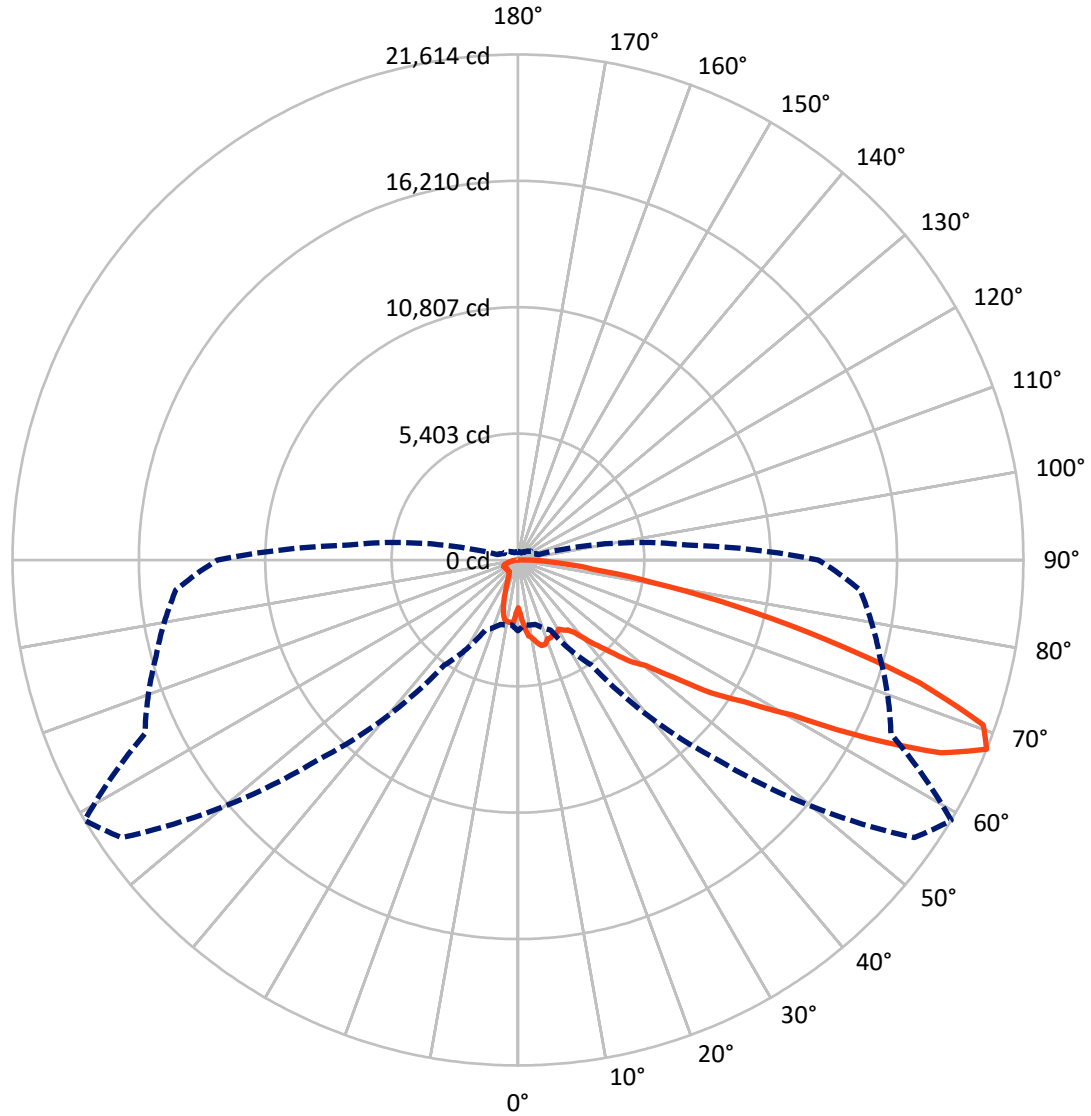
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.6 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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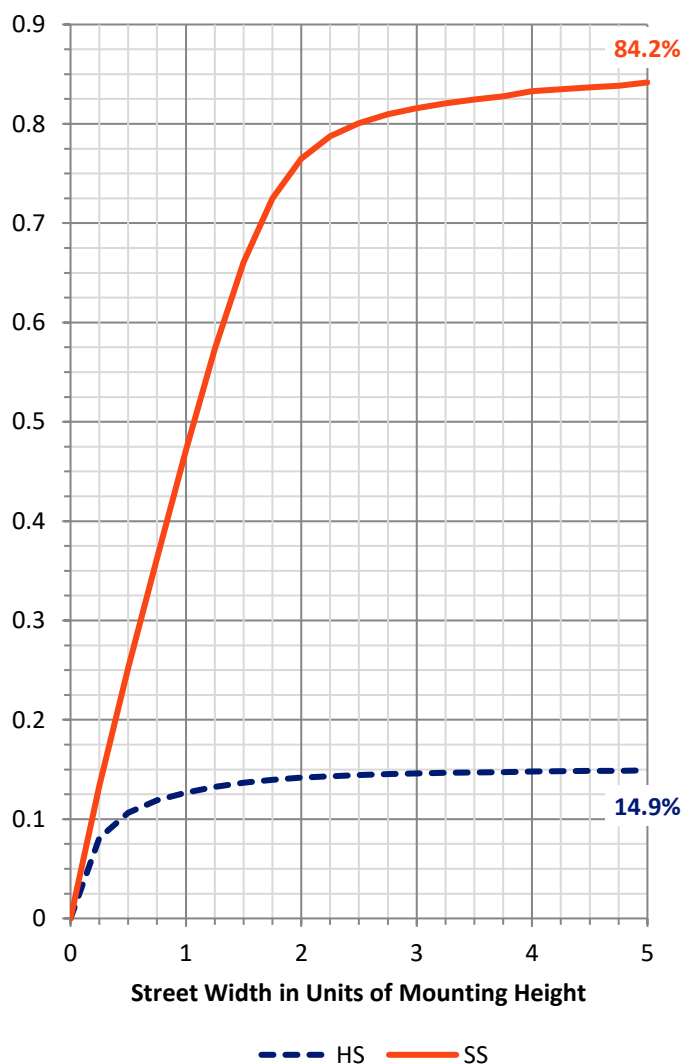
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3249.4	0.0	3249.4
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	18338.6	0.0	18338.6
	% Fixture	84.9	0.0	84.9
Total	Lumens	21588.0	0.0	21588.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.8	1.2
10°-20°	789.5	3.7
20°-30°	1127.5	5.2
30°-40°	1661.4	7.7
40°-50°	2807.0	13.0
50°-60°	4884.8	22.6
60°-70°	6224.7	28.8
70°-80°	3296.0	15.3
80°-90°	530.2	2.5
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°	21588.0	100.0
0°-180°	21588.0	100.0

Coefficient of Utilization



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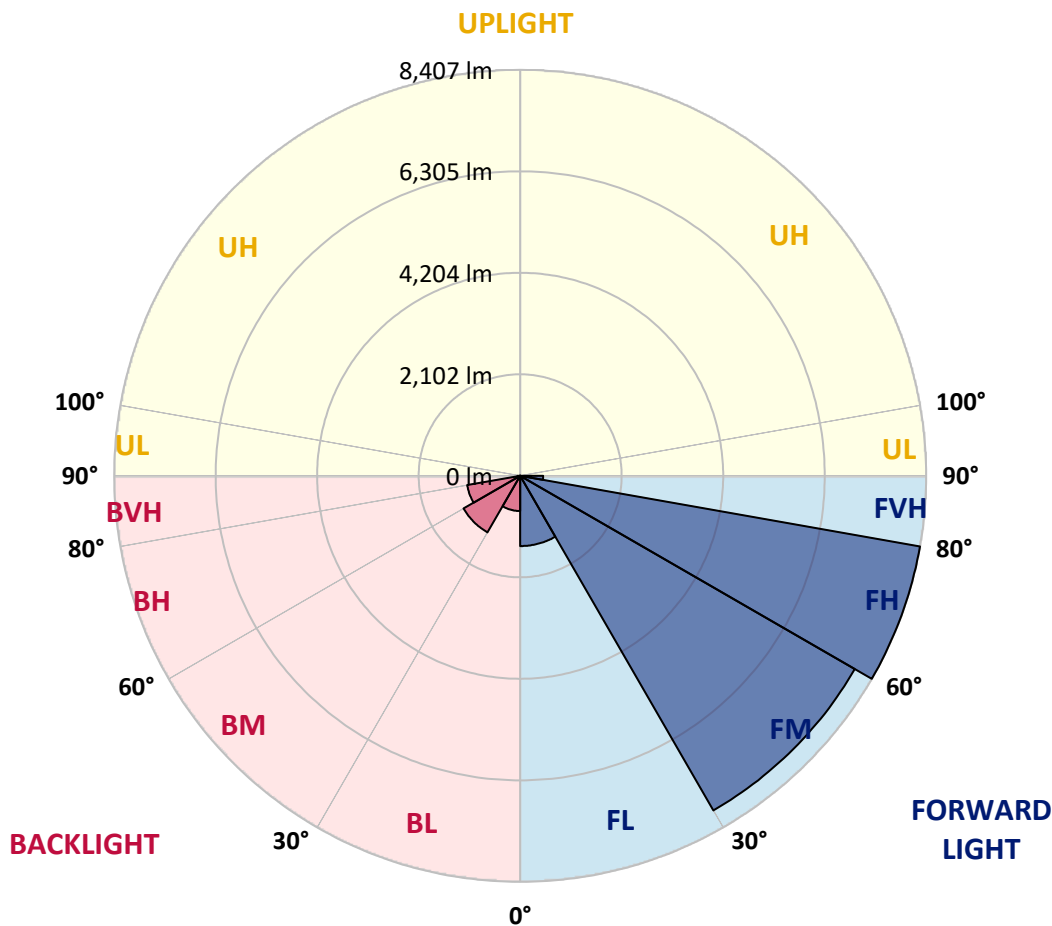
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1455.1	6.7			
FM (30°-60°)	8000.2	37.1			
FH (60°-80°)	8407.0	38.9			G4/12000
FVH (80°-90°)	476.2	2.2			G3/500
BL (0°-30°)	728.7	3.4	B2/1000		
BM (30°-60°)	1353.0	6.3	B2/2500		
BH (60°-80°)	1113.7	5.2	B3/2500		G3/2500
BVH (80°-90°)	54.0	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8
2.5°	2550.5	2431.6	2305.3	2341.0	2413.3	2446.2	2410.6	2375.8	2331.0	2277.9	2459.0
5°	3093.0	2916.4	2890.8	2889.9	2864.3	2761.8	2893.6	2884.4	2937.5	2992.4	3133.3
7.5°	3247.6	3181.7	3110.4	3144.2	3015.2	3009.8	3214.7	3273.2	3375.7	3341.8	3531.2
10°	3168.0	3093.9	3131.4	3117.7	3129.6	3265.0	3390.3	3394.0	3503.8	3611.7	3490.0
12.5°	3028.1	3033.5	3182.7	3177.2	3369.3	3620.9	3658.4	3629.1	3808.4	3735.2	3839.5
15°	3127.8	3194.6	3157.0	3189.1	3265.0	3585.2	3689.5	3795.6	3965.7	4031.6	3927.3
17.5°	3286.9	3322.6	3154.3	3136.9	3293.4	3445.2	3704.1	3794.7	3821.2	4290.5	4143.2
20°	3219.3	3291.5	3126.9	2915.5	3175.3	3376.6	3631.8	3604.4	3733.4	4310.6	4188.0
22.5°	3411.4	3291.5	3082.0	2932.0	3023.5	3208.3	3425.1	3605.3	3758.1	4192.6	4253.0
25°	3448.0	3391.2	3195.5	3046.4	3015.2	3081.1	3390.3	3508.3	3766.3	4353.6	4218.2
27.5°	3671.2	3586.1	3187.2	3191.8	3037.2	2921.0	3280.5	3528.5	3859.6	4253.9	4303.3
30°	3948.4	3883.4	3383.0	3401.3	3187.2	2973.2	3355.6	3430.6	3913.6	4409.4	4410.3
32.5°	4156.0	4270.4	3768.1	3519.3	3443.4	3283.3	3240.3	3577.9	3850.5	4691.2	4593.3
35°	4530.2	4618.9	4064.5	3865.1	3608.1	3427.8	3553.2	3674.8	4113.0	5061.7	4865.0
37.5°	5222.7	5120.2	4615.3	4301.5	4205.4	3945.6	4015.1	3930.1	4398.5	5477.9	5397.4
40°	5623.4	5534.7	5003.2	4829.3	4448.8	4481.7	4394.8	4457.0	4779.9	5920.7	5895.1
42.5°	6018.6	5899.7	5450.5	5329.7	4950.1	4789.1	4804.6	5005.9	5368.2	6636.1	6551.0
45°	6409.2	6104.6	5907.9	5939.9	5757.0	5426.7	5449.6	5639.0	6010.4	7454.0	7258.2
47.5°	6708.4	6456.8	6303.1	6263.8	6173.2	6615.1	6417.5	6494.3	6658.1	8182.2	8108.1
50°	7274.7	6981.0	6780.6	6723.9	7031.3	7646.1	7243.5	7078.0	7426.5	9123.5	9085.1
52.5°	8181.2	7815.3	7481.4	7477.7	7922.3	8321.2	8604.8	8319.4	8447.5	10087.7	10197.5
55°	8972.6	8549.0	8248.9	8414.5	9047.6	9291.8	10255.1	10031.9	9924.0	11061.1	11374.9
57.5°	9268.0	8773.1	8577.4	8821.6	9754.7	11009.9	12028.1	11440.7	11335.5	12162.5	12820.3
60°	8619.4	8096.2	8108.1	8568.2	10184.7	12271.4	13966.6	13468.0	12851.4	13533.9	14176.1
62.5°	6771.5	6298.5	6606.8	7306.7	9824.3	13497.3	16564.7	16775.1	14583.2	14671.0	14928.0
65°	4602.5	4275.0	4553.1	5238.3	7968.1	14166.0	19039.2	19882.7	16160.3	15415.6	15252.8
67.5°	3029.0	2797.5	2851.5	3307.1	5485.3	12076.5	20694.2	21613.5	17602.1	16026.7	14680.1
70°	2345.6	2159.0	2135.2	2374.0	3253.1	8389.8	19713.5	21111.3	18480.3	15454.1	12795.6
72.5°	1840.6	1698.8	1711.6	1941.2	2519.4	4654.6	15254.6	17952.4	17157.5	13328.0	9830.7
75°	1435.4	1319.2	1384.1	1646.7	2330.0	2892.7	10525.0	13625.3	13264.9	9869.1	5606.9
77.5°	1042.0	967.0	1059.4	1402.4	2190.1	2481.9	6551.9	9505.9	8497.8	5067.2	1923.9
80°	683.4	641.3	717.2	1143.5	1986.1	2388.6	4049.0	5824.7	4199.0	1423.5	728.2
82.5°	402.5	384.2	447.3	773.9	1596.4	2238.6	2700.5	3236.6	1718.0	602.0	387.0
85°	211.3	197.6	265.3	444.6	1100.5	2043.7	2126.0	1937.6	829.7	261.6	184.8
87.5°	70.4	68.6	112.5	172.0	416.2	1085.0	1134.4	920.3	342.1	75.9	40.3
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°	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8	2042.8
2.5°	2483.7	2447.1	2236.7	2266.0	2293.5	2279.7	2271.5	2176.4	2167.2	2302.6	2291.6
5°	3129.6	2977.7	2798.4	2790.2	2672.2	2551.4	2575.2	2536.8	2547.8	2603.6	2609.1
7.5°	3470.8	3281.5	3110.4	2832.3	2596.3	2405.1	2435.3	2426.1	2401.4	2527.6	2561.5
10°	3464.4	3296.1	3103.1	2766.4	2607.2	2451.7	2265.1	2088.5	2036.4	1974.2	1979.7
12.5°	3693.1	3544.0	3123.2	2780.1	2564.2	2296.2	1946.7	1753.7	1568.9	1565.3	1518.6
15°	3764.5	3654.7	3166.2	2701.5	2263.3	1879.0	1517.7	1308.2	1174.6	1148.1	1108.8
17.5°	3944.7	3772.7	3035.4	2447.1	1913.8	1469.2	1140.8	994.4	983.4	1001.7	981.6
20°	3956.6	3677.6	2799.4	2071.2	1537.8	1113.3	930.4	857.2	896.5	941.4	939.5
22.5°	3946.5	3557.7	2595.3	1751.0	1155.4	894.7	815.1	798.6	835.2	902.0	910.2
25°	3844.1	3518.4	2340.1	1438.1	937.7	766.6	744.7	754.7	800.5	879.1	879.1
27.5°	3951.1	3358.3	2019.9	1170.1	788.6	682.5	698.0	723.6	757.5	847.1	863.6
30°	3916.3	3411.4	1761.9	942.3	695.3	623.9	658.7	684.3	722.7	816.0	824.3
32.5°	4009.7	3269.6	1545.1	792.2	634.0	601.0	609.3	644.0	694.3	767.5	782.2
35°	4152.4	3321.7	1296.3	712.6	603.8	574.5	590.1	617.5	667.8	739.2	751.1
37.5°	4608.0	3319.0	1124.3	668.7	598.3	569.0	576.3	595.5	654.1	719.0	746.5
40°	4900.7	3509.3	967.9	658.7	591.9	566.3	559.9	580.9	627.6	704.4	723.6
42.5°	5450.5	3625.4	900.2	655.0	591.0	550.7	544.3	569.0	614.8	686.1	715.4
45°	6031.4	3791.0	846.2	653.2	588.2	548.0	528.8	559.9	598.3	666.9	700.8
47.5°	6714.8	4141.4	816.0	646.8	582.7	551.6	523.3	538.8	581.8	650.4	684.3
50°	7609.5	4605.2	822.4	637.6	591.0	552.6	515.0	522.4	561.7	628.5	663.2
52.5°	8697.2	5323.3	863.6	641.3	596.5	548.0	511.4	507.7	541.6	600.1	634.9
55°	10008.1	6342.4	987.1	658.7	596.5	547.1	505.9	489.4	515.0	562.6	596.5
57.5°	11589.9	7522.6	1228.6	666.9	591.9	541.6	494.0	464.7	480.3	519.6	551.6
60°	12948.4	8474.9	1477.4	672.4	601.0	528.8	470.2	433.6	443.7	473.9	502.2
62.5°	13640.9	8742.0	1552.5	667.8	625.7	520.5	441.9	400.7	401.6	427.2	452.8
65°	13770.8	8386.2	1251.5	663.2	657.8	519.6	421.7	372.3	365.9	384.2	406.2
67.5°	12845.0	7279.2	902.9	653.2	661.4	514.1	408.0	349.5	333.0	345.8	364.1
70°	10906.5	5862.2	758.4	633.1	617.5	486.7	384.2	325.7	303.7	312.9	326.6
72.5°	8130.9	4337.2	661.4	590.1	537.9	416.2	347.6	299.1	276.3	282.7	292.7
75°	4517.4	2313.6	553.5	513.2	439.1	336.7	296.4	265.3	245.2	247.9	258.9
77.5°	1500.3	853.5	406.2	407.1	332.1	259.8	244.3	226.9	211.3	212.2	221.4
80°	679.7	472.0	290.9	292.7	231.4	188.5	187.5	182.0	172.0	169.2	175.6
82.5°	394.3	286.3	199.4	190.3	149.1	122.6	136.3	133.6	130.8	120.8	122.6
85°	193.9	153.7	104.3	98.8	82.3	61.3	73.2	75.9	73.2	62.2	61.3
87.5°	47.6	50.3	25.6	23.8	13.7	6.4	11.0	11.0	13.7	9.1	4.6
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)