

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: P368322

Luminaire Tested: **MSA-SA4B-727-U-SL3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368322
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-SA4B-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: 15943 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G3

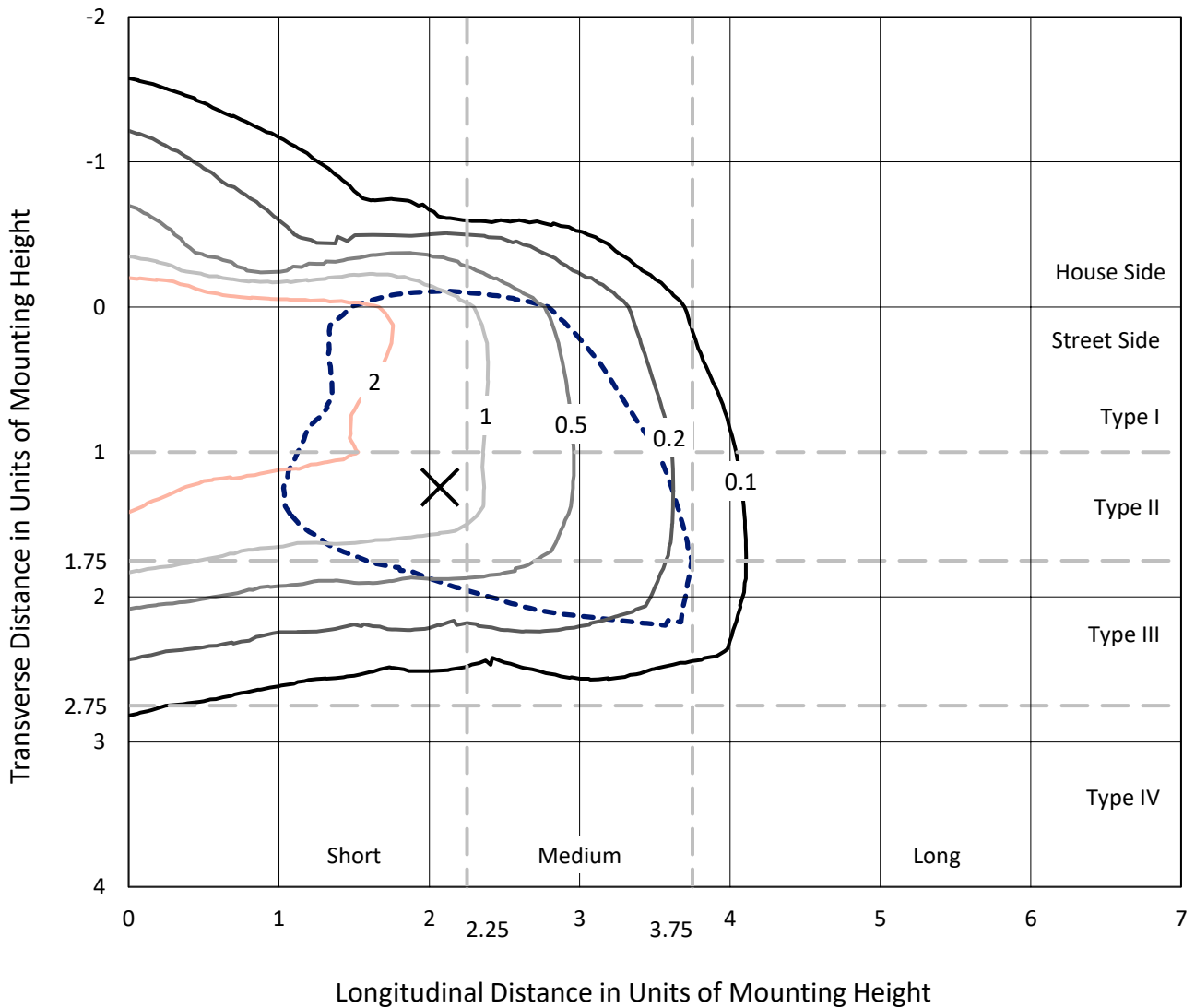
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

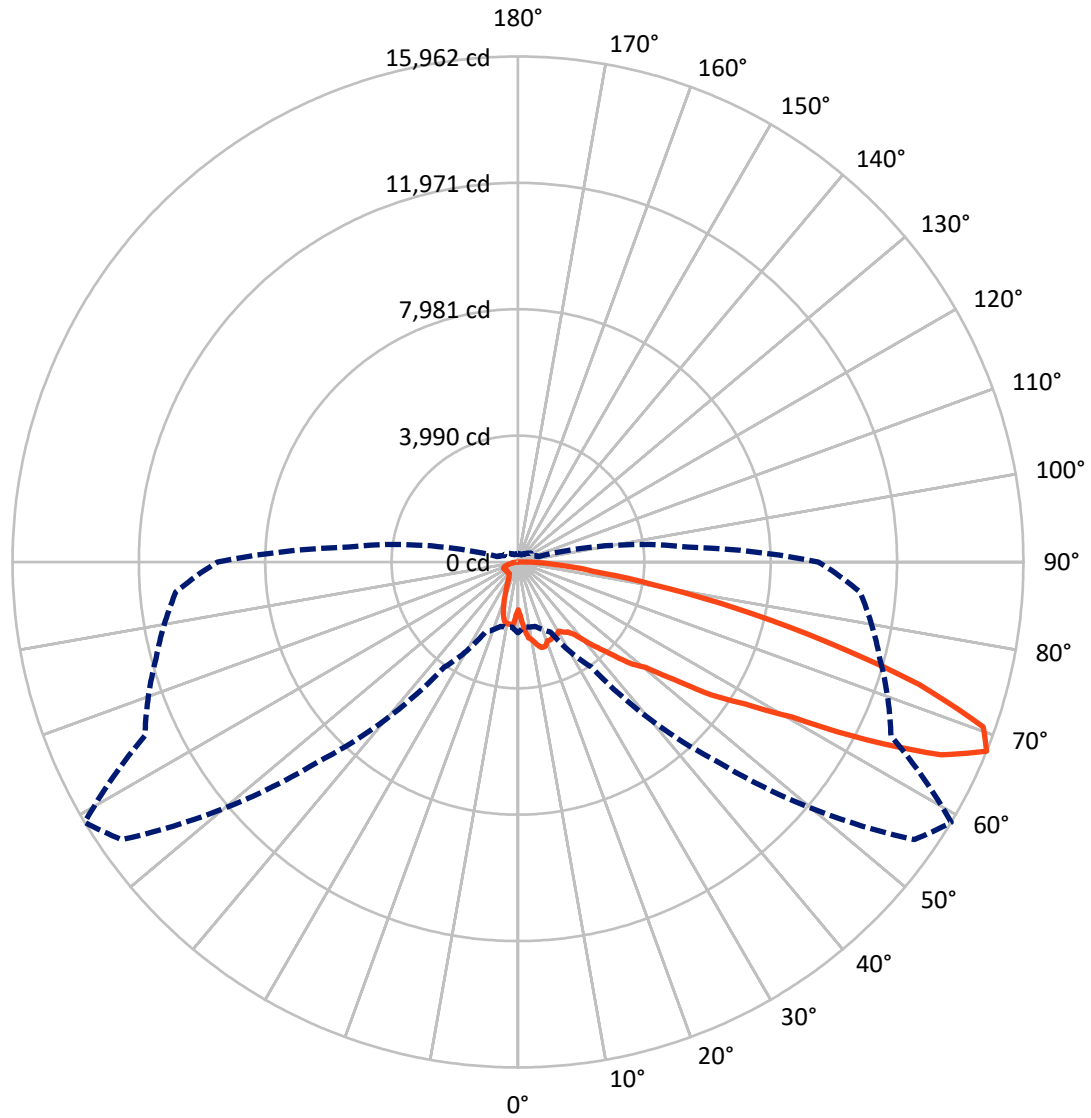
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.1 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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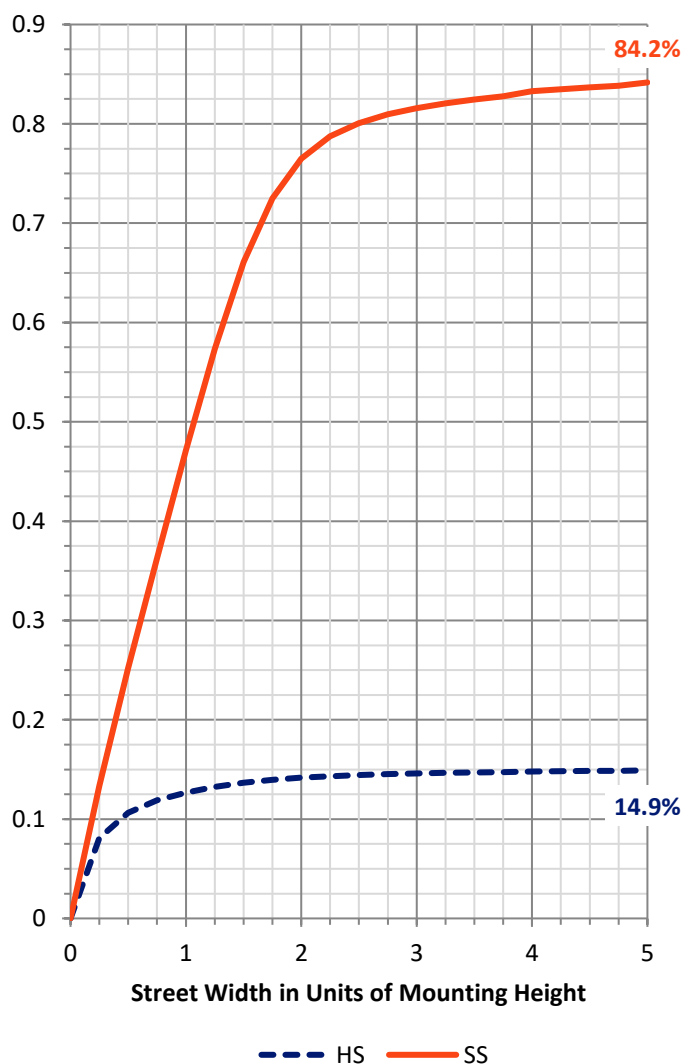
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2399.8	0.0	2399.8
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	13543.2	0.0	13543.2
	% Fixture	84.9	0.0	84.9
Total	Lumens	15943.0	0.0	15943.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.0	1.2
10°-20°	583.1	3.7
20°-30°	832.7	5.2
30°-40°	1227.0	7.7
40°-50°	2073.0	13.0
50°-60°	3607.5	22.6
60°-70°	4597.0	28.8
70°-80°	2434.2	15.3
80°-90°	391.6	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°	15943.0	100.0
0°-180°	15943.0	100.0

Coefficient of Utilization



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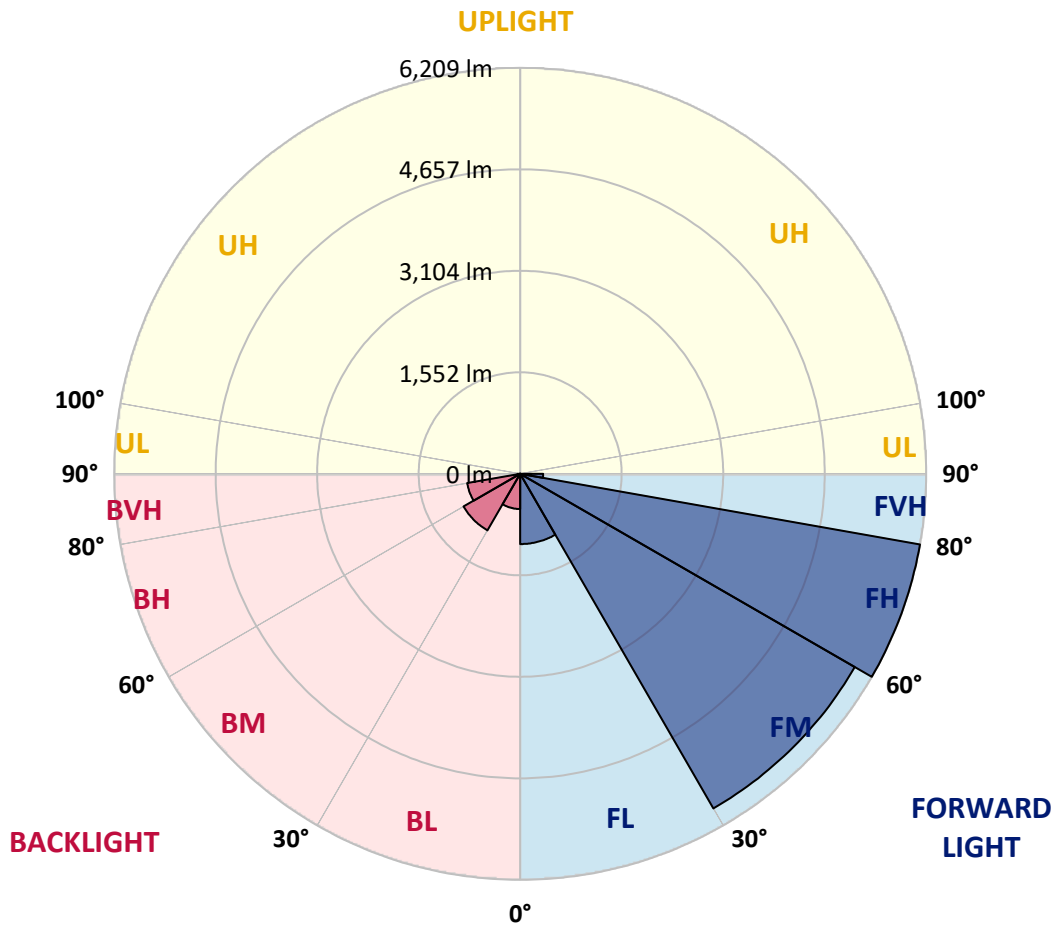
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1074.6	6.7			
FM (30°-60°)	5908.2	37.1			
FH (60°-80°)	6208.7	38.9			G3/7500
FVH (80°-90°)	351.7	2.2			G3/500
BL (0°-30°)	538.2	3.4	B2/1000		
BM (30°-60°)	999.2	6.3	B1/1000		
BH (60°-80°)	822.5	5.2	B2/1000		G2/1000
BVH (80°-90°)	39.9	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6
2.5°	1883.6	1795.8	1702.5	1728.9	1782.2	1806.6	1780.2	1754.5	1721.4	1682.3	1816.0
5°	2284.2	2153.8	2134.9	2134.2	2115.3	2039.7	2136.9	2130.2	2169.4	2209.9	2314.0
7.5°	2398.4	2349.8	2297.1	2322.1	2226.8	2222.7	2374.1	2417.3	2493.0	2468.0	2607.8
10°	2339.6	2284.9	2312.6	2302.5	2311.2	2411.2	2503.8	2506.5	2587.6	2667.3	2577.4
12.5°	2236.3	2240.3	2350.4	2346.4	2488.3	2674.0	2701.7	2680.1	2812.5	2758.5	2835.5
15°	2309.9	2359.2	2331.5	2355.2	2411.2	2647.7	2724.7	2803.1	2928.8	2977.4	2900.4
17.5°	2427.5	2453.8	2329.5	2316.7	2432.2	2544.3	2735.5	2802.4	2822.0	3168.6	3059.8
20°	2377.5	2430.8	2309.2	2153.2	2345.0	2493.7	2682.2	2661.9	2757.1	3183.5	3092.9
22.5°	2519.3	2430.8	2276.1	2165.3	2232.9	2369.4	2529.5	2662.6	2775.4	3096.3	3140.9
25°	2546.4	2504.5	2359.9	2249.8	2226.8	2275.4	2503.8	2590.9	2781.5	3215.2	3115.2
27.5°	2711.2	2648.4	2353.8	2357.2	2243.0	2157.2	2422.7	2605.8	2850.4	3141.6	3178.1
30°	2915.9	2867.9	2498.4	2511.9	2353.8	2195.7	2478.1	2533.5	2890.2	3256.4	3257.1
32.5°	3069.3	3153.7	2782.8	2599.1	2543.0	2424.7	2393.0	2642.3	2843.6	3464.5	3392.2
35°	3345.6	3411.1	3001.7	2854.4	2664.6	2531.5	2624.1	2713.9	3037.5	3738.1	3592.9
37.5°	3857.0	3781.4	3408.4	3176.7	3105.8	2913.9	2965.2	2902.4	3248.3	4045.5	3986.1
40°	4152.9	4087.4	3694.9	3566.5	3285.5	3309.8	3245.6	3291.6	3530.0	4372.5	4353.6
42.5°	4444.8	4357.0	4025.3	3936.1	3655.7	3536.8	3548.3	3696.9	3964.5	4900.8	4838.0
45°	4733.3	4508.3	4363.1	4386.7	4251.6	4007.7	4024.6	4164.4	4438.7	5504.8	5360.3
47.5°	4954.2	4768.4	4654.9	4625.9	4559.0	4885.3	4739.4	4796.1	4917.1	6042.6	5987.9
50°	5372.4	5155.5	5007.6	4965.7	5192.7	5646.7	5349.4	5227.2	5484.6	6737.8	6709.4
52.5°	6041.9	5771.7	5525.1	5522.4	5850.7	6145.3	6354.7	6144.0	6238.5	7449.9	7531.0
55°	6626.3	6313.5	6091.9	6214.2	6681.7	6862.1	7573.5	7408.7	7329.0	8168.8	8400.5
57.5°	6844.6	6479.1	6334.5	6514.9	7204.0	8130.9	8882.9	8449.1	8371.4	8982.2	9467.9
60°	6365.6	5979.1	5987.9	6327.7	7521.5	9062.6	10314.5	9946.3	9490.9	9994.9	10469.2
62.5°	5000.8	4651.5	4879.2	5396.1	7255.3	9967.9	12233.2	12388.6	10769.8	10834.7	11024.5
65°	3399.0	3157.1	3362.5	3868.5	5884.5	10461.8	14060.7	14683.6	11934.6	11384.6	11264.4
67.5°	2236.9	2066.0	2105.9	2442.3	4050.9	8918.7	15282.9	15961.9	12999.3	11835.9	10841.4
70°	1732.3	1594.4	1576.9	1753.2	2402.5	6196.0	14558.6	15591.0	13647.9	11413.0	9449.7
72.5°	1359.3	1254.6	1264.1	1433.6	1860.6	3437.5	11265.7	13258.1	12671.0	9842.9	7260.1
75°	1060.0	974.2	1022.2	1216.1	1720.8	2136.3	7772.8	10062.5	9796.3	7288.4	4140.8
77.5°	769.5	714.1	782.4	1035.7	1617.4	1832.9	4838.7	7020.2	6275.7	3742.2	1420.8
80°	504.7	473.6	529.7	844.5	1466.7	1764.0	2990.2	4301.6	3101.0	1051.2	537.8
82.5°	297.3	283.8	330.4	571.6	1178.9	1653.2	1994.4	2390.3	1268.8	444.5	285.8
85°	156.1	145.9	195.9	328.3	812.8	1509.3	1570.1	1430.9	612.8	193.2	136.5
87.5°	52.0	50.7	83.1	127.0	307.4	801.3	837.8	679.7	252.7	56.1	29.7
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°	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6	1508.6
2.5°	1834.3	1807.2	1651.9	1673.5	1693.7	1683.6	1677.5	1607.3	1600.5	1700.5	1692.4
5°	2311.2	2199.1	2066.7	2060.6	1973.4	1884.3	1901.8	1873.5	1881.6	1922.8	1926.8
7.5°	2563.2	2423.4	2297.1	2091.7	1917.4	1776.2	1798.5	1791.7	1773.5	1866.7	1891.7
10°	2558.5	2434.2	2291.7	2043.0	1925.5	1810.6	1672.8	1542.4	1503.9	1458.0	1462.0
12.5°	2727.4	2617.3	2306.5	2053.2	1893.7	1695.8	1437.7	1295.1	1158.7	1156.0	1121.5
15°	2780.1	2699.0	2338.3	1995.1	1671.4	1387.7	1120.8	966.1	867.5	847.9	818.8
17.5°	2913.2	2786.2	2241.7	1807.2	1413.4	1085.0	842.5	734.4	726.3	739.8	724.9
20°	2922.0	2715.9	2067.4	1529.6	1135.7	822.2	687.1	633.0	662.1	695.2	693.8
22.5°	2914.6	2627.4	1916.7	1293.1	853.3	660.7	602.0	589.8	616.8	666.1	672.2
25°	2838.9	2598.4	1728.2	1062.1	692.5	566.2	549.9	557.4	591.2	649.3	649.3
27.5°	2917.9	2480.1	1491.7	864.1	582.4	504.0	515.5	534.4	559.4	625.6	637.8
30°	2892.3	2519.3	1301.2	695.9	513.5	460.8	486.4	505.4	533.7	602.6	608.7
32.5°	2961.2	2414.6	1141.1	585.1	468.2	443.9	450.0	475.6	512.8	566.8	577.6
35°	3066.6	2453.1	957.3	526.3	445.9	424.3	435.8	456.0	493.2	545.9	554.7
37.5°	3403.0	2451.1	830.3	493.9	441.8	420.2	425.6	439.8	483.1	531.0	551.3
40°	3619.2	2591.6	714.8	486.4	437.1	418.2	413.5	429.0	463.5	520.2	534.4
42.5°	4025.3	2677.4	664.8	483.7	436.4	406.7	402.0	420.2	454.0	506.7	528.3
45°	4454.3	2799.7	624.9	482.4	434.4	404.7	390.5	413.5	441.8	492.5	517.5
47.5°	4958.9	3058.5	602.6	477.7	430.4	407.4	386.4	397.9	429.7	480.4	505.4
50°	5619.7	3401.0	607.4	470.9	436.4	408.1	380.4	385.8	414.8	464.1	489.8
52.5°	6423.0	3931.4	637.8	473.6	440.5	404.7	377.7	375.0	400.0	443.2	468.9
55°	7391.1	4684.0	729.0	486.4	440.5	404.0	373.6	361.4	380.4	415.5	440.5
57.5°	8559.3	5555.5	907.3	492.5	437.1	400.0	364.8	343.2	354.7	383.7	407.4
60°	9562.5	6258.8	1091.1	496.6	443.9	390.5	347.3	320.2	327.7	350.0	370.9
62.5°	10074.0	6456.1	1146.5	493.2	462.1	384.4	326.3	295.9	296.6	315.5	334.4
65°	10169.9	6193.3	924.2	489.8	485.8	383.7	311.5	275.0	270.2	283.8	300.0
67.5°	9486.2	5375.8	666.8	482.4	488.5	379.7	301.3	258.1	245.9	255.4	268.9
70°	8054.6	4329.3	560.1	467.5	456.0	359.4	283.8	240.5	224.3	231.1	241.2
72.5°	6004.8	3203.0	488.5	435.8	397.3	307.4	256.7	220.9	204.0	208.8	216.2
75°	3336.1	1708.6	408.7	379.0	324.3	248.6	218.9	195.9	181.1	183.1	191.2
77.5°	1108.0	630.3	300.0	300.6	245.2	191.9	180.4	167.6	156.1	156.7	163.5
80°	502.0	348.6	214.8	216.2	170.9	139.2	138.5	134.4	127.0	125.0	129.7
82.5°	291.2	211.5	147.3	140.5	110.1	90.5	100.7	98.6	96.6	89.2	90.5
85°	143.2	113.5	77.0	73.0	60.8	45.3	54.0	56.1	54.0	45.9	45.3
87.5°	35.1	37.2	18.9	17.6	10.1	4.7	8.1	8.1	10.1	6.8	3.4
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)