

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: P596768

Luminaire Tested: **MSA-SA4B-827-U-SL3**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596768
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-827-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: 14014 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G3

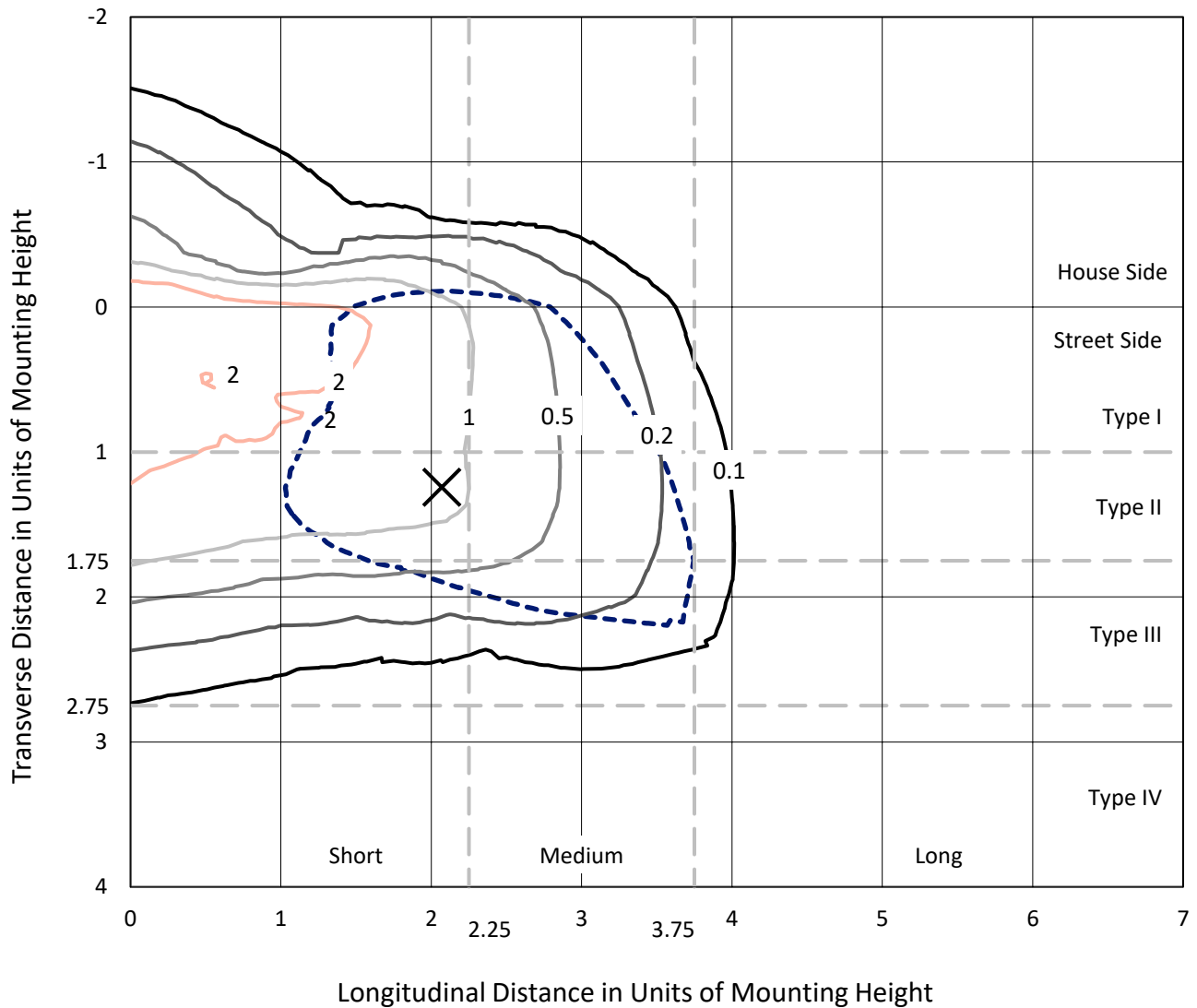
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

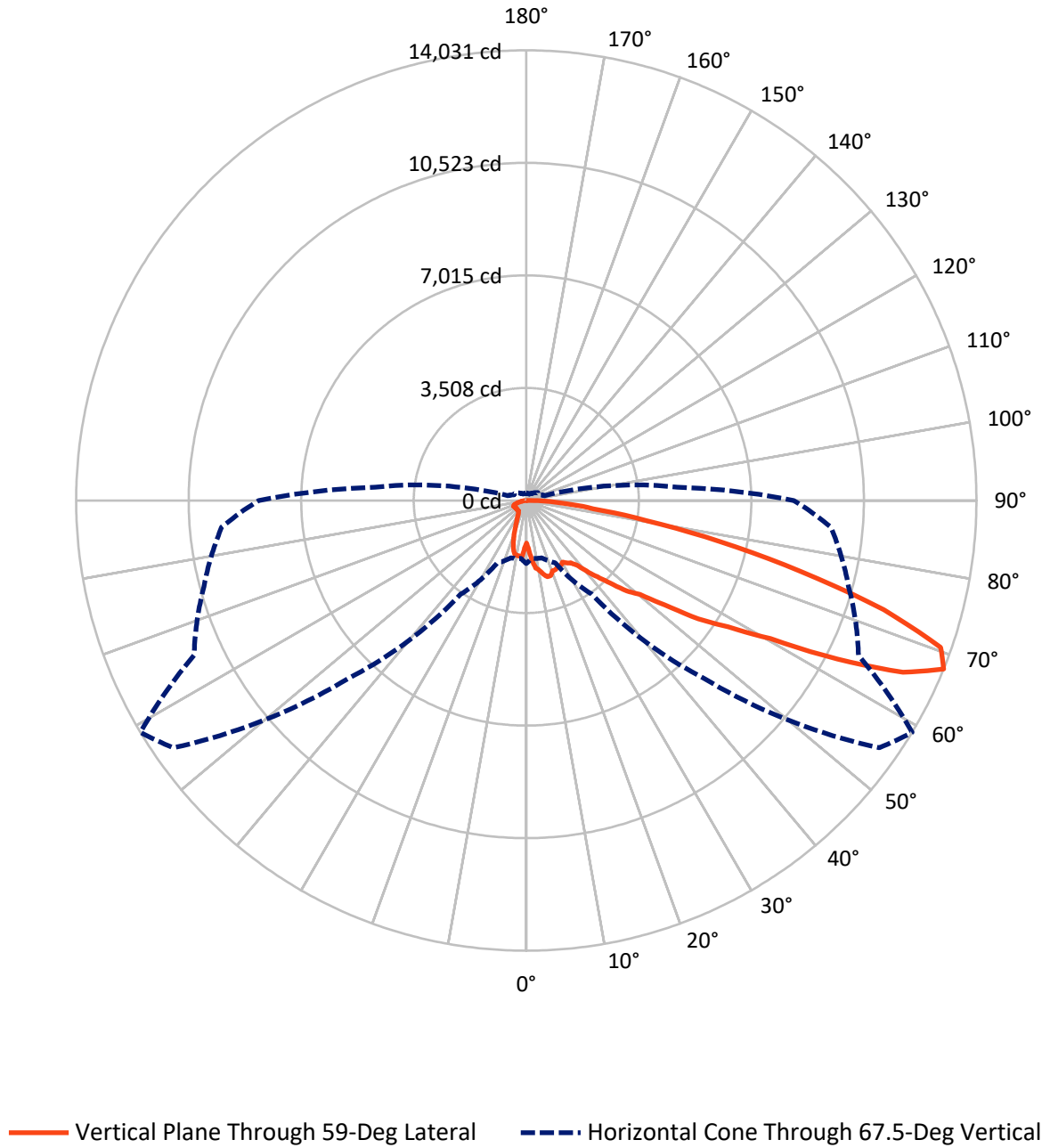
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2109.4	0.0	2109.4
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	11904.6	0.0	11904.6
	% Fixture	84.9	0.0	84.9
Total	Lumens	14014.0	0.0	14014.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.2	1.2
10°-20°	512.5	3.7
20°-30°	731.9	5.2
30°-40°	1078.5	7.7
40°-50°	1822.2	13.0
50°-60°	3171.0	22.6
60°-70°	4040.8	28.8
70°-80°	2139.7	15.3
80°-90°	344.2	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°	14014.0	100.0
0°-180°	14014.0	100.0

Coefficient of Utilization



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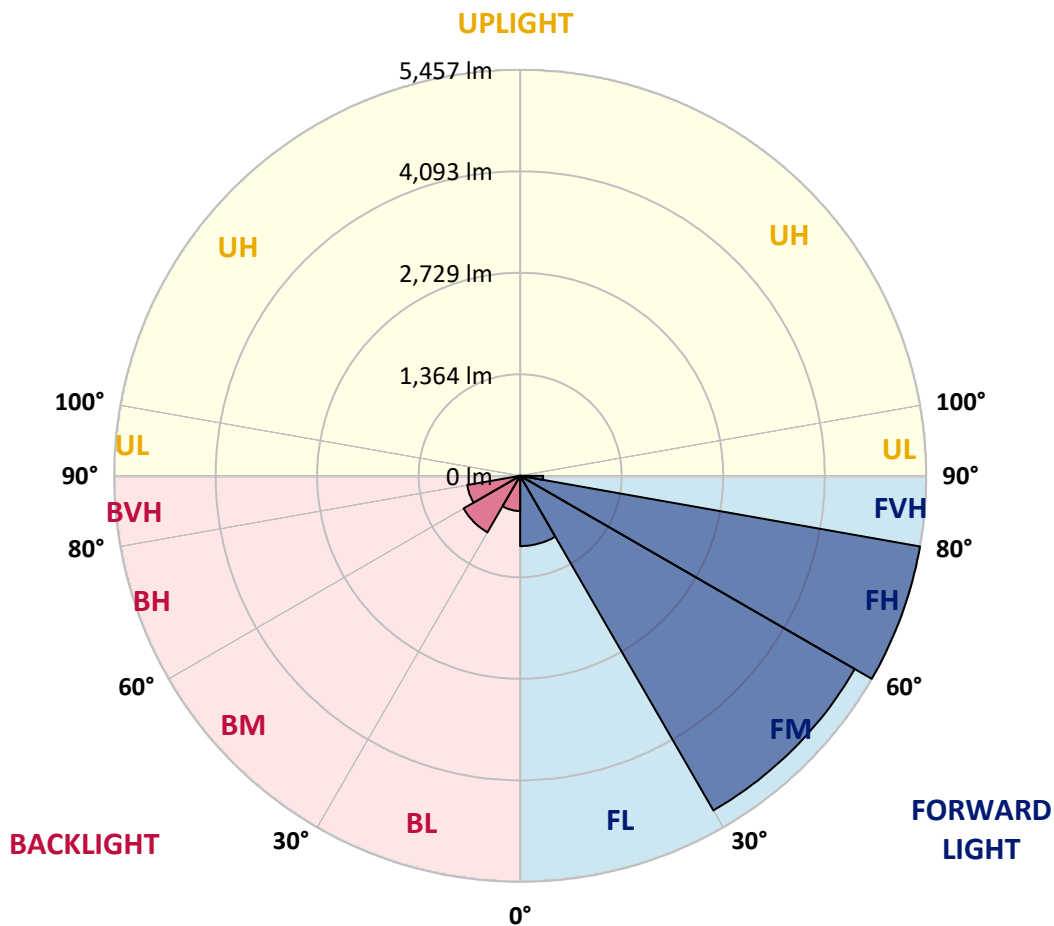
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	944.6	6.7			
FM (30°-60°)	5193.4	37.1			
FH (60°-80°)	5457.5	38.9			G3/7500
FVH (80°-90°)	309.2	2.2			G3/500
BL (0°-30°)	473.0	3.4	B1/500		
BM (30°-60°)	878.3	6.3	B1/1000		
BH (60°-80°)	723.0	5.2	B2/1000		G2/1000
BVH (80°-90°)	35.0	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1
2.5°	1655.7	1578.5	1496.5	1519.7	1566.6	1588.0	1564.8	1542.3	1513.2	1478.7	1596.3
5°	2007.8	1893.2	1876.6	1876.0	1859.4	1792.9	1878.4	1872.4	1906.9	1942.5	2034.0
7.5°	2108.2	2065.5	2019.1	2041.1	1957.4	1953.8	2086.8	2124.8	2191.4	2169.4	2292.3
10°	2056.5	2008.4	2032.8	2023.9	2031.6	2119.5	2200.9	2203.2	2274.5	2344.6	2265.6
12.5°	1965.7	1969.2	2066.0	2062.5	2187.2	2350.5	2374.9	2355.9	2472.2	2424.7	2492.4
15°	2030.4	2073.8	2049.4	2070.2	2119.5	2327.3	2395.0	2463.9	2574.4	2617.1	2549.4
17.5°	2133.7	2156.9	2047.6	2036.4	2137.9	2236.5	2404.5	2463.3	2480.6	2785.2	2689.6
20°	2089.8	2136.7	2029.8	1892.6	2061.3	2191.9	2357.6	2339.8	2423.6	2798.3	2718.7
22.5°	2214.5	2136.7	2000.7	1903.3	1962.7	2082.7	2223.4	2340.4	2439.6	2721.7	2760.9
25°	2238.3	2201.4	2074.4	1977.6	1957.4	2000.1	2200.9	2277.5	2444.9	2826.2	2738.3
27.5°	2383.2	2327.9	2069.0	2072.0	1971.6	1896.2	2129.6	2290.5	2505.5	2761.5	2793.5
30°	2563.1	2520.9	2196.1	2208.0	2069.0	1930.1	2178.3	2227.0	2540.5	2862.4	2863.0
32.5°	2697.9	2772.1	2446.1	2284.6	2235.3	2131.4	2103.5	2322.6	2499.6	3045.3	2981.8
35°	2940.8	2998.4	2638.5	2509.1	2342.2	2225.2	2306.6	2385.5	2670.0	3285.8	3158.2
37.5°	3390.4	3323.8	2996.0	2792.3	2730.0	2561.3	2606.5	2551.2	2855.3	3556.0	3503.8
40°	3650.5	3592.9	3247.8	3135.0	2888.0	2909.3	2852.9	2893.3	3102.9	3843.5	3826.8
42.5°	3907.0	3829.8	3538.2	3459.8	3213.4	3108.9	3119.0	3249.6	3484.8	4307.9	4252.6
45°	4160.6	3962.8	3835.2	3855.9	3737.2	3522.8	3537.6	3660.6	3901.7	4838.8	4711.7
47.5°	4354.8	4191.5	4091.7	4066.2	4007.4	4294.2	4165.9	4215.8	4322.1	5311.5	5263.4
50°	4722.4	4531.8	4401.7	4364.9	4564.4	4963.5	4702.2	4594.7	4821.0	5922.6	5897.6
52.5°	5310.9	5073.4	4856.6	4854.2	5142.8	5401.8	5585.9	5400.6	5483.7	6548.5	6619.8
55°	5824.6	5549.6	5354.9	5462.3	5873.3	6031.9	6657.2	6512.3	6442.2	7180.4	7384.1
57.5°	6016.4	5695.1	5568.1	5726.6	6332.4	7147.1	7808.1	7426.8	7358.5	7895.4	8322.4
60°	5595.4	5255.7	5263.4	5562.1	6611.5	7966.1	9066.5	8742.8	8342.6	8785.6	9202.5
62.5°	4395.8	4088.7	4288.9	4743.2	6377.5	8761.8	10753.1	10889.6	9466.8	9523.8	9690.6
65°	2987.7	2775.1	2955.7	3400.5	5172.5	9196.0	12359.5	12907.0	10490.6	10007.2	9901.5
67.5°	1966.3	1816.0	1851.1	2146.8	3560.8	7839.6	13433.8	14030.6	11426.5	10403.9	9529.7
70°	1522.7	1401.5	1386.1	1541.1	2111.8	5446.3	12797.1	13704.6	11996.6	10032.1	8306.3
72.5°	1194.9	1102.8	1111.1	1260.2	1635.5	3021.6	9902.6	11653.9	11137.9	8652.0	6381.6
75°	931.8	856.3	898.5	1069.0	1512.6	1877.8	6832.4	8845.0	8611.0	6406.6	3639.8
77.5°	676.4	627.7	687.7	910.4	1421.7	1611.1	4253.2	6170.8	5516.4	3289.4	1248.9
80°	443.6	416.3	465.6	742.3	1289.3	1550.6	2628.4	3781.1	2725.8	924.0	472.7
82.5°	261.3	249.4	290.4	502.4	1036.3	1453.2	1753.1	2101.1	1115.3	390.8	251.2
85°	137.2	128.3	172.2	288.6	714.4	1326.7	1380.1	1257.8	538.6	169.8	120.0
87.5°	45.7	44.5	73.0	111.6	270.2	704.3	736.4	597.4	222.1	49.3	26.1
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°	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1	1326.1
2.5°	1612.3	1588.6	1452.0	1471.0	1488.8	1479.9	1474.6	1412.8	1406.9	1494.8	1487.6
5°	2031.6	1933.0	1816.6	1811.3	1734.7	1656.3	1671.7	1646.8	1653.9	1690.1	1693.7
7.5°	2253.1	2130.2	2019.1	1838.6	1685.4	1561.3	1580.9	1574.9	1558.9	1640.8	1662.8
10°	2249.0	2139.7	2014.4	1795.8	1692.5	1591.6	1470.4	1355.8	1321.9	1281.6	1285.1
12.5°	2397.4	2300.6	2027.4	1804.7	1664.6	1490.6	1263.7	1138.4	1018.5	1016.1	985.8
15°	2443.7	2372.5	2055.4	1753.7	1469.2	1219.8	985.2	849.2	762.5	745.3	719.8
17.5°	2560.7	2449.1	1970.4	1588.6	1242.4	953.7	740.5	645.5	638.4	650.3	637.2
20°	2568.5	2387.3	1817.2	1344.5	998.3	722.7	604.0	556.4	582.0	611.1	609.9
22.5°	2561.9	2309.5	1684.8	1136.7	750.0	580.8	529.1	518.4	542.2	585.5	590.9
25°	2495.4	2284.0	1519.1	933.6	608.7	497.7	483.4	489.9	519.6	570.7	570.7
27.5°	2564.9	2180.1	1311.2	759.5	511.9	443.0	453.1	469.7	491.7	549.9	560.6
30°	2542.3	2214.5	1143.8	611.7	451.3	405.0	427.6	444.2	469.2	529.7	535.1
32.5°	2602.9	2122.5	1003.0	514.3	411.5	390.2	395.5	418.1	450.7	498.3	507.8
35°	2695.5	2156.3	841.5	462.6	391.9	372.9	383.0	400.9	433.5	479.8	487.6
37.5°	2991.3	2154.5	729.9	434.1	388.4	369.4	374.1	386.6	424.6	466.8	484.6
40°	3181.3	2278.1	628.3	427.6	384.2	367.6	363.4	377.1	407.4	457.3	469.7
42.5°	3538.2	2353.5	584.4	425.2	383.6	357.5	353.3	369.4	399.1	445.4	464.4
45°	3915.3	2461.0	549.3	424.0	381.9	355.7	343.3	363.4	388.4	432.9	454.9
47.5°	4358.9	2688.4	529.7	419.9	378.3	358.1	339.7	349.8	377.7	422.2	444.2
50°	4939.7	2989.5	533.9	413.9	383.6	358.7	334.3	339.1	364.6	408.0	430.5
52.5°	5645.8	3455.7	560.6	416.3	387.2	355.7	332.0	329.6	351.6	389.6	412.1
55°	6496.9	4117.2	640.8	427.6	387.2	355.1	328.4	317.7	334.3	365.2	387.2
57.5°	7523.6	4883.3	797.6	432.9	384.2	351.6	320.7	301.7	311.8	337.3	358.1
60°	8405.5	5501.5	959.1	436.5	390.2	343.3	305.2	281.5	288.0	307.6	326.0
62.5°	8855.1	5674.9	1007.8	433.5	406.2	337.9	286.8	260.1	260.7	277.3	294.0
65°	8939.4	5443.9	812.4	430.5	427.0	337.3	273.8	241.7	237.5	249.4	263.7
67.5°	8338.4	4725.4	586.1	424.0	429.4	333.8	264.9	226.9	216.2	224.5	236.4
70°	7080.0	3805.5	492.3	411.0	400.9	315.9	249.4	211.4	197.2	203.1	212.0
72.5°	5278.2	2815.5	429.4	383.0	349.2	270.2	225.7	194.2	179.3	183.5	190.0
75°	2932.5	1501.9	359.3	333.2	285.1	218.5	192.4	172.2	159.2	160.9	168.1
77.5°	973.9	554.1	263.7	264.3	215.6	168.7	158.6	147.3	137.2	137.8	143.7
80°	441.2	306.4	188.8	190.0	150.2	122.3	121.7	118.2	111.6	109.9	114.0
82.5°	256.0	185.9	129.5	123.5	96.8	79.6	88.5	86.7	84.9	78.4	79.6
85°	125.9	99.8	67.7	64.1	53.4	39.8	47.5	49.3	47.5	40.4	39.8
87.5°	30.9	32.7	16.6	15.4	8.9	4.2	7.1	7.1	8.9	5.9	3.0
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)