

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: P368364

Luminaire Tested: **MSA-SA4B-740-U-SL2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368364
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-740-U-SL2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS
EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19301 lumens
Efficiency: N/A
Efficacy: 112.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G3

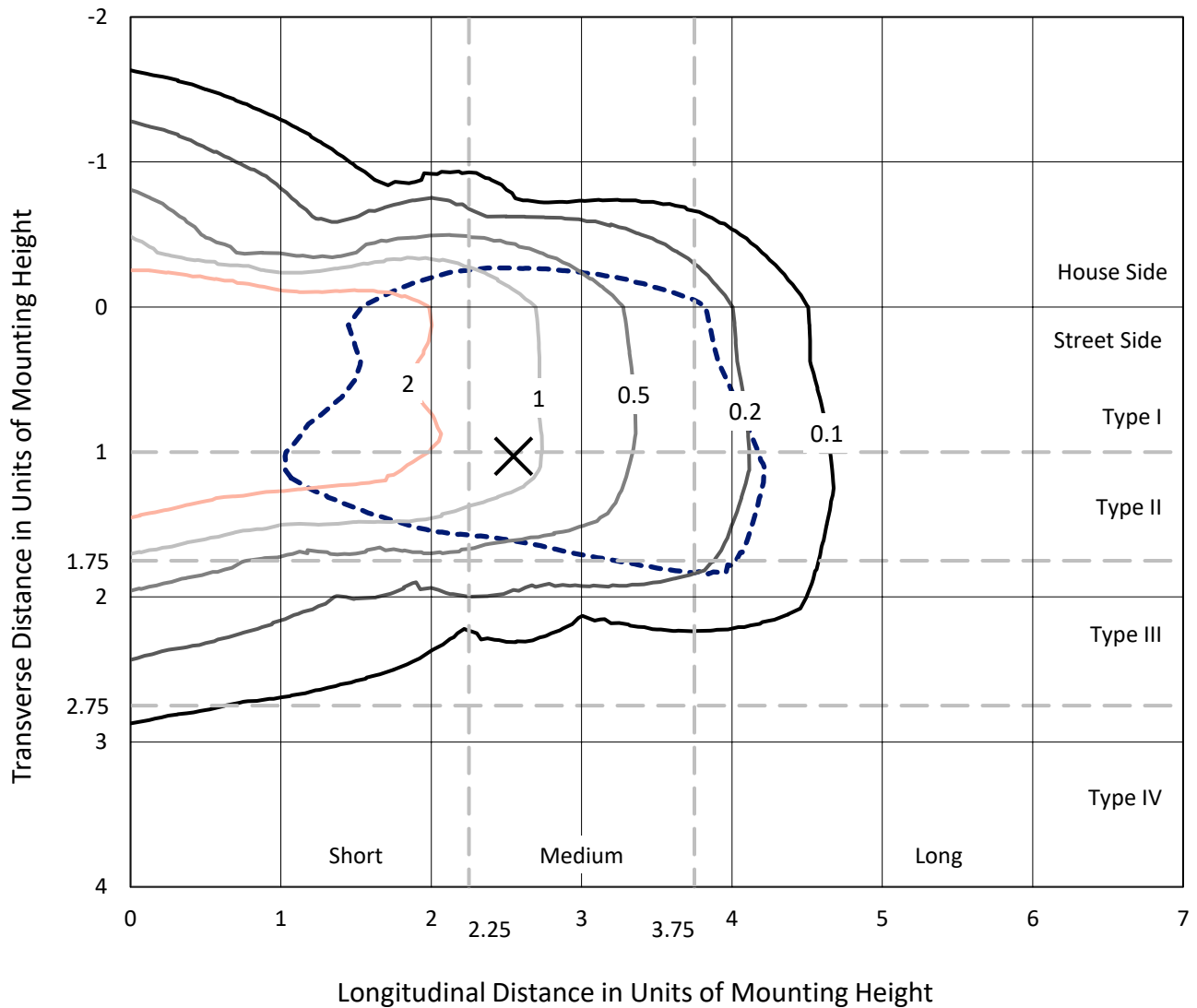
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

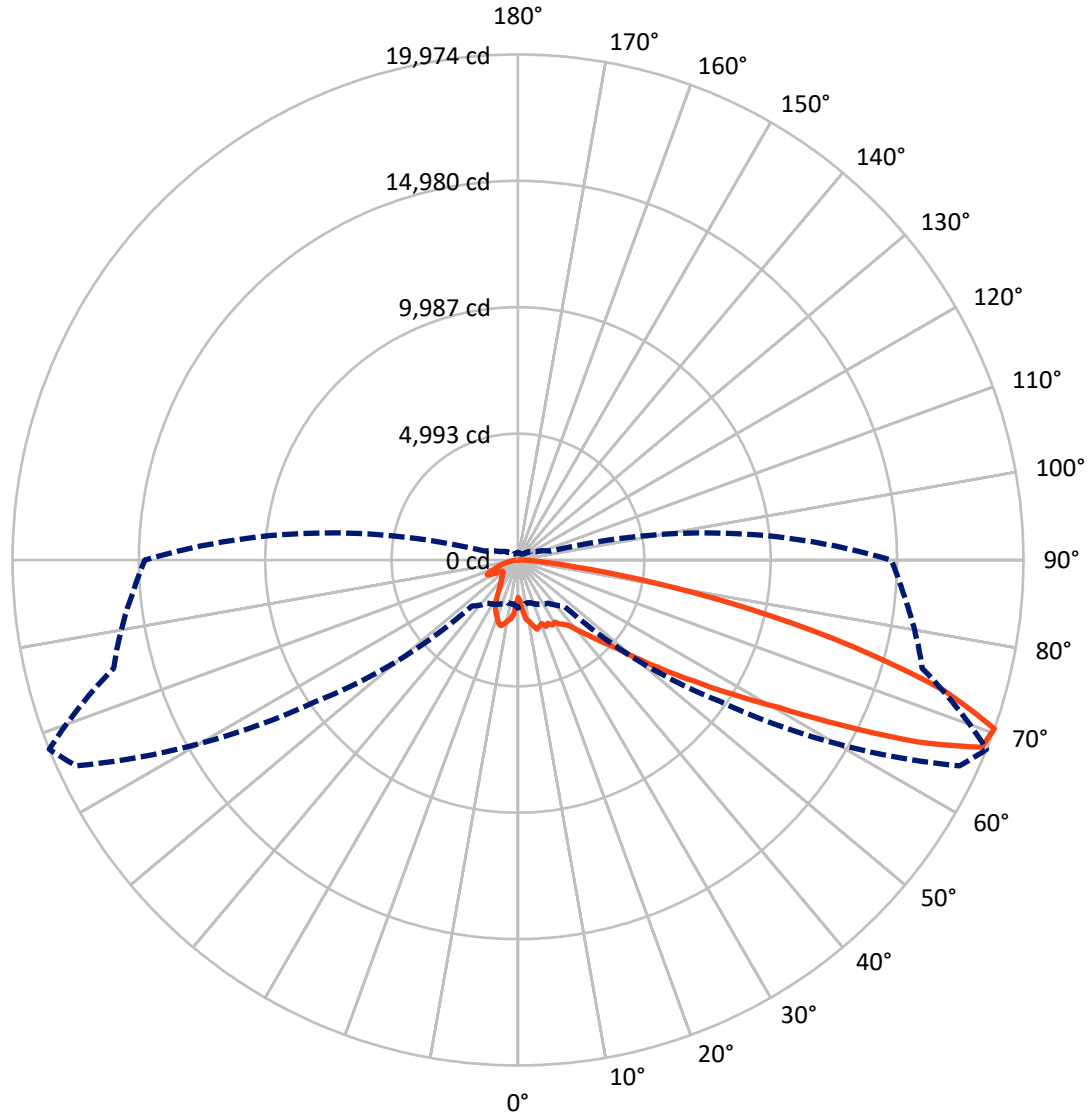
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3685.0	0.0	3685.0
	% Fixture	19.1	0.0	19.1
Street Side	Lumens	15616.0	0.0	15616.0
	% Fixture	80.9	0.0	80.9
Total	Lumens	19301.0	0.0	19301.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.6	1.0
10°-20°	644.2	3.3
20°-30°	979.9	5.1
30°-40°	1496.8	7.8
40°-50°	2573.6	13.3
50°-60°	4259.9	22.1
60°-70°	5251.9	27.2
70°-80°	3373.7	17.5
80°-90°	523.3	2.7
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°	19301.0	100.0
0°-180°	19301.0	100.0

Coefficient of Utilization



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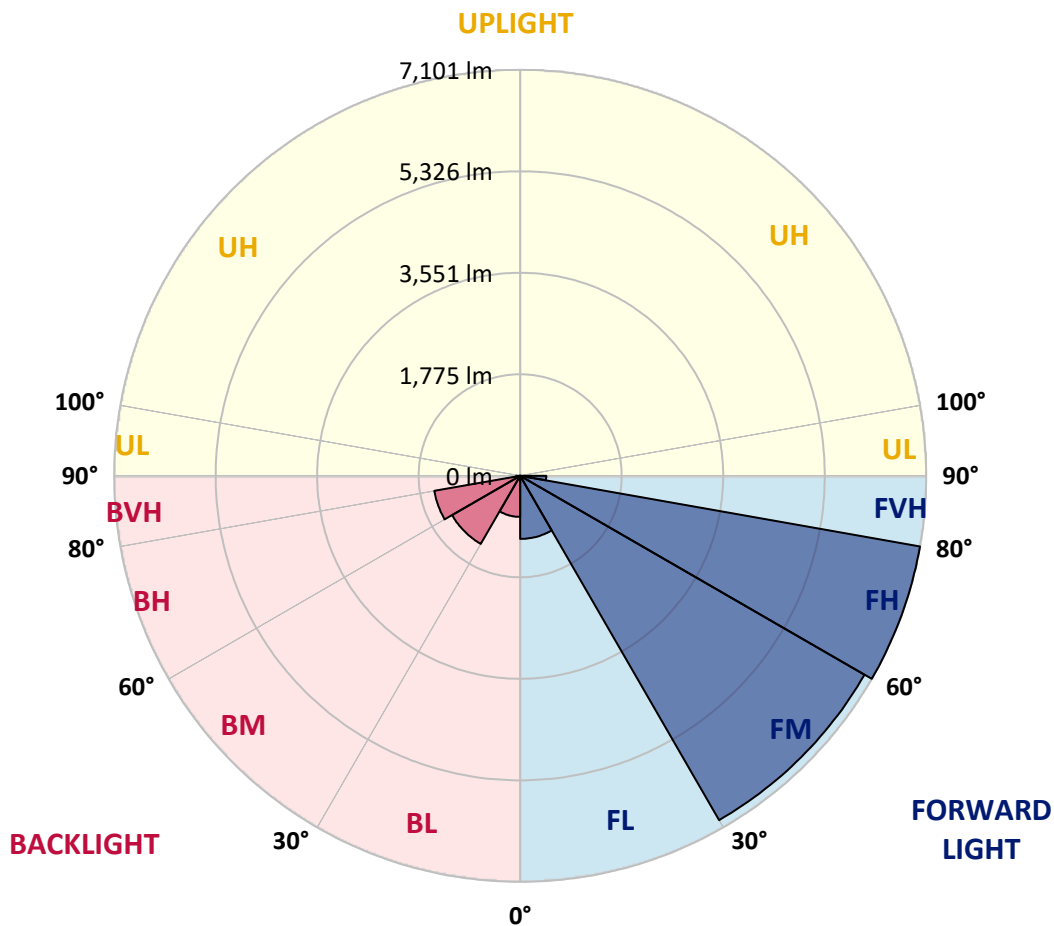
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1103.7	5.7			
FM (30°-60°)	6954.9	36.0			
FH (60°-80°)	7101.3	36.8			G3/7500
FVH (80°-90°)	456.1	2.4			G3/500
BL (0°-30°)	718.1	3.7	B2/1000		
BM (30°-60°)	1375.5	7.1	B2/2500		
BH (60°-80°)	1524.3	7.9	B3/2500		G3/2500
BVH (80°-90°)	67.2	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-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9
2.5°	1700.4	1631.7	1562.3	1596.2	1650.3	1698.0	1688.3	1693.9	1628.5	1619.6	1791.7
5°	2003.3	1885.4	1883.0	1884.6	1889.4	1834.5	1968.6	2038.1	2053.4	2124.5	2293.3
7.5°	2108.3	2060.7	2012.2	2036.4	1975.1	1980.7	2145.5	2326.4	2369.3	2421.0	2652.0
10°	2086.5	2041.3	2055.8	2059.9	2071.2	2162.5	2268.3	2442.0	2478.3	2643.1	2702.9
12.5°	2089.8	2081.7	2149.5	2152.0	2273.1	2437.1	2479.1	2639.1	2653.6	2774.8	3024.4
15°	2200.4	2256.2	2218.2	2238.4	2261.8	2458.1	2518.7	2748.1	2835.4	2991.3	3178.7
17.5°	2416.1	2432.3	2318.4	2288.5	2365.2	2425.0	2563.1	2662.5	2753.8	3189.2	3447.7
20°	2466.2	2509.8	2374.1	2219.8	2382.2	2465.4	2561.5	2606.7	2677.8	3218.2	3585.0
22.5°	2681.1	2590.6	2426.6	2292.5	2345.8	2426.6	2496.1	2666.5	2853.1	3135.0	3722.3
25°	2803.0	2750.5	2604.3	2460.5	2415.3	2417.7	2551.8	2704.5	2769.1	3257.0	3749.8
27.5°	3097.9	3013.9	2685.1	2657.6	2487.2	2354.7	2560.7	2798.2	2911.3	3161.7	3883.9
30°	3467.0	3403.2	2971.9	2935.5	2675.4	2444.4	2673.8	2867.7	2851.5	3223.9	3976.8
32.5°	3765.9	3872.6	3437.2	3150.4	2965.4	2744.1	2638.3	2855.5	3016.3	3368.5	4134.3
35°	4192.4	4292.6	3799.9	3606.0	3204.5	2883.0	2886.2	3022.0	3121.3	3537.3	4310.4
37.5°	4930.8	4842.7	4446.1	4139.9	3883.1	3403.2	3259.4	3211.8	3291.8	3744.1	4655.3
40°	5463.1	5388.8	4921.9	4747.4	4247.4	3968.7	3574.5	3529.2	3670.6	3957.4	4937.2
42.5°	6094.0	5961.5	5526.9	5383.1	4860.5	4358.0	3960.6	3986.5	4055.1	4359.7	5318.5
45°	6736.2	6414.7	6168.3	6157.0	5808.0	5114.1	4580.2	4559.2	4561.6	4951.8	5746.6
47.5°	7245.9	6956.7	6674.8	6540.7	6364.6	6422.0	5480.1	5233.7	5159.4	5547.9	6388.8
50°	7590.8	7258.0	6938.9	6907.4	7377.6	7687.0	6325.0	6061.7	6107.7	6400.9	7245.1
52.5°	7598.1	7203.1	6870.3	7090.8	8198.3	8641.0	7780.7	7044.8	7191.8	7391.3	8362.3
55°	7069.8	6660.2	6443.8	6946.2	8519.0	9772.7	9826.0	8620.0	8450.3	8523.8	9697.6
57.5°	5955.9	5542.3	5416.2	6018.1	7910.7	10864.0	12296.2	10502.1	10004.5	9697.6	11066.0
60°	4483.2	4125.4	4047.0	4430.7	6558.5	10543.3	14296.3	12844.7	11830.9	11008.6	12438.4
62.5°	3362.0	3105.2	2987.2	3042.1	4538.2	9500.4	15609.8	15804.5	14369.0	12440.0	13779.3
65°	2732.0	2524.4	2419.3	2348.3	2822.4	7346.1	15372.3	18295.7	17333.6	13943.3	14823.0
67.5°	2282.0	2097.8	2049.4	2118.8	2231.1	4261.9	13514.4	19689.1	19754.6	15426.4	15432.9
70°	1894.3	1757.8	1740.0	1937.1	2084.9	2572.0	9761.4	19251.3	19973.5	16538.7	15289.9
72.5°	1463.7	1390.2	1387.8	1697.2	2071.2	2192.3	5812.9	16630.8	17601.0	16183.3	13890.8
75°	1015.4	964.5	1003.3	1395.1	2023.5	2223.9	3317.6	12953.8	13680.0	13771.2	11127.3
77.5°	698.7	655.9	697.9	1008.9	1807.0	2277.2	2320.8	9366.4	9447.1	9234.7	6373.5
80°	486.3	456.4	488.7	714.1	1406.4	2253.7	1975.9	5896.9	5410.6	4121.4	2040.5
82.5°	301.3	292.4	328.0	508.9	990.4	2050.2	1872.5	3043.0	2323.2	1137.4	728.6
85°	158.3	145.4	190.6	332.0	619.6	1609.1	1754.5	1388.6	896.6	403.9	292.4
87.5°	46.9	42.0	73.5	134.1	262.5	721.4	1004.1	588.9	334.4	118.7	91.3
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°	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9	1479.9
2.5°	1803.8	1794.9	1675.4	1690.7	1716.6	1723.0	1722.2	1678.6	1632.5	1761.0	1756.9
5°	2297.4	2217.4	2157.6	2144.7	2071.2	1997.7	2023.5	2014.6	2003.3	2061.5	2068.8
7.5°	2652.8	2542.1	2472.7	2294.1	2124.5	1977.5	2024.3	2038.9	2009.8	2114.8	2146.3
10°	2746.5	2659.3	2584.1	2354.7	2261.0	2175.4	2048.6	1904.0	1884.6	1824.0	1831.3
12.5°	2988.0	2975.9	2719.8	2517.9	2395.9	2225.5	1951.6	1776.3	1626.1	1633.4	1589.7
15°	3178.7	3185.1	2877.4	2594.6	2267.5	2007.4	1685.1	1467.0	1312.7	1282.0	1250.5
17.5°	3434.7	3421.8	2890.3	2502.5	2088.1	1706.9	1311.9	1095.4	1069.5	1087.3	1059.8
20°	3546.2	3432.3	2807.9	2273.9	1807.8	1296.5	991.2	876.5	926.5	997.6	999.2
22.5°	3646.4	3451.7	2765.1	2089.8	1434.6	942.7	795.7	774.7	833.6	929.8	937.8
25°	3642.3	3541.4	2688.3	1904.0	1112.3	735.9	691.5	706.8	777.1	877.3	882.9
27.5°	3825.7	3472.7	2488.8	1660.0	837.7	630.1	641.4	669.7	702.8	798.1	816.7
30°	3824.1	3600.3	2388.6	1363.6	672.9	577.6	606.7	630.9	658.4	745.6	756.1
32.5°	3914.6	3517.1	2328.1	1060.6	603.4	564.6	571.9	596.2	635.7	694.7	702.0
35°	4023.6	3611.6	2134.2	842.5	577.6	553.3	559.0	572.7	609.1	663.2	670.5
37.5°	4373.4	3629.4	2057.4	710.0	576.0	548.5	547.7	555.0	596.2	645.4	667.2
40°	4509.9	3791.8	1833.7	663.2	570.3	548.5	537.2	541.2	575.1	638.2	655.1
42.5°	4837.1	3845.9	1668.1	647.0	570.3	538.8	521.0	527.5	567.1	622.8	649.5
45°	5173.9	3922.6	1471.0	643.8	569.5	538.0	504.1	518.6	550.9	597.8	626.8
47.5°	5653.7	4198.9	1273.9	634.1	563.0	542.0	500.0	499.2	527.5	567.9	595.3
50°	6436.5	4630.3	1121.2	622.0	563.8	538.8	491.9	480.6	499.2	534.8	561.4
52.5°	7526.2	5365.4	1061.4	615.5	557.4	525.9	478.2	460.4	470.9	499.2	525.1
55°	8791.2	6358.1	1120.4	615.5	544.5	505.7	458.8	437.8	443.5	462.9	487.9
57.5°	10269.5	7591.6	1405.6	606.7	528.3	481.4	435.4	411.2	412.8	429.7	452.4
60°	11813.2	8969.7	2044.5	599.4	517.0	454.8	407.9	382.9	380.5	396.6	416.8
62.5°	13359.3	10241.2	2716.6	616.3	513.8	432.2	378.9	353.8	353.0	367.5	384.5
65°	14588.7	11110.4	2883.8	685.0	534.8	406.3	349.0	325.5	323.9	336.0	354.6
67.5°	15192.2	11236.4	2190.7	770.6	579.2	382.1	319.9	298.1	296.5	309.4	325.5
70°	14745.4	10375.3	1352.2	779.5	576.8	353.8	290.0	271.4	268.2	281.9	294.0
72.5°	13092.7	9075.5	1027.5	689.9	499.2	313.4	260.1	244.0	239.1	251.2	262.5
75°	10508.6	7205.5	823.1	556.6	393.4	264.1	230.2	214.9	209.2	220.5	230.2
77.5°	6121.5	4053.5	601.8	434.6	297.3	215.7	196.3	182.6	176.1	188.2	195.5
80°	1990.4	1350.6	378.0	311.8	217.3	168.8	159.1	149.4	143.0	151.1	153.5
82.5°	714.9	502.4	209.2	191.4	144.6	121.2	120.4	114.7	106.6	109.9	109.9
85°	316.7	229.4	124.4	102.6	86.4	64.6	75.9	71.9	63.8	62.2	59.8
87.5°	88.9	75.9	45.2	34.7	28.3	10.5	24.2	21.8	17.8	16.2	11.3
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)