

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: P368058

Luminaire Tested: **MSA-SA3D-727-U-SL3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368058
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-SA3D-727-U-SL3
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 16334 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G3

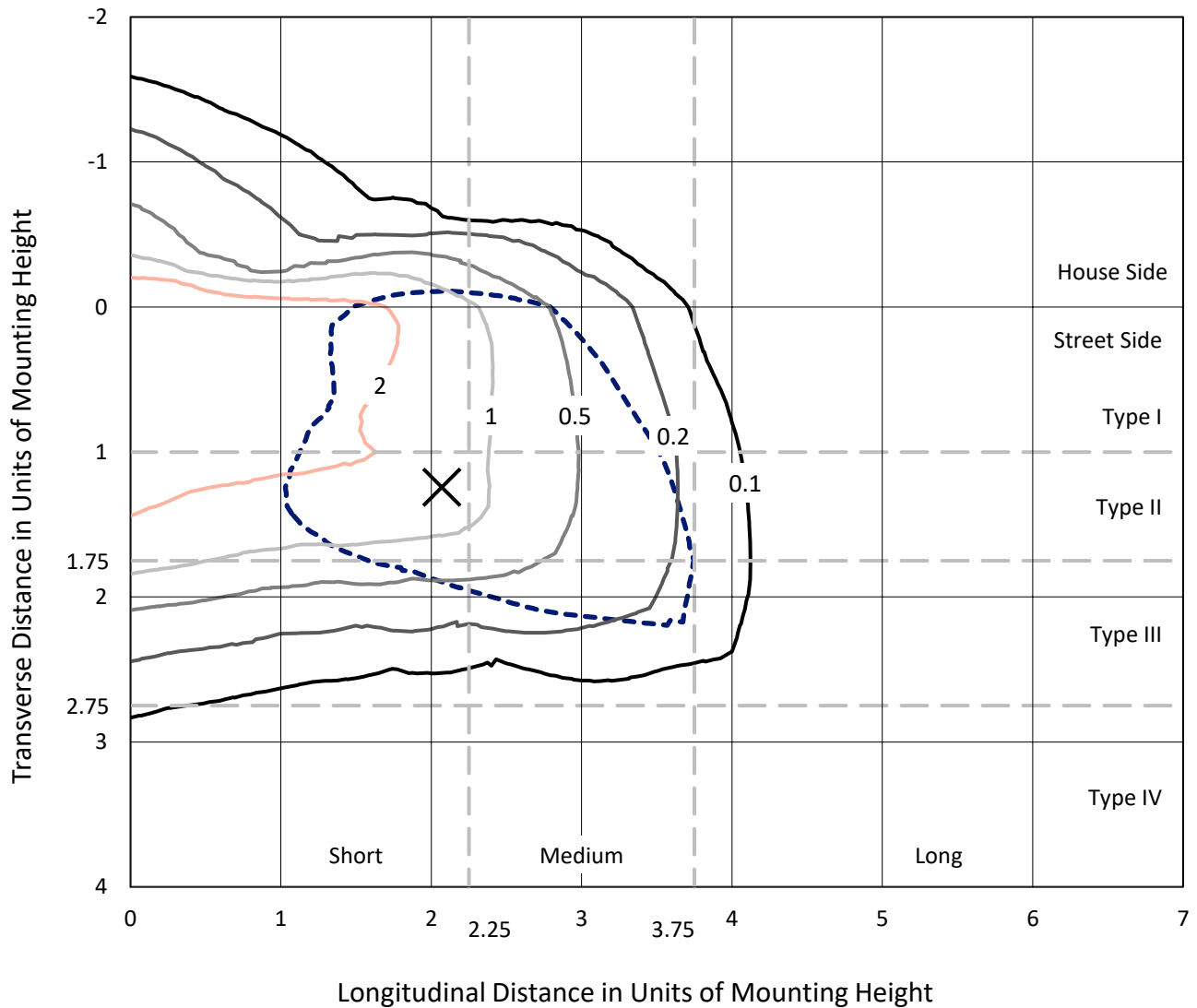
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

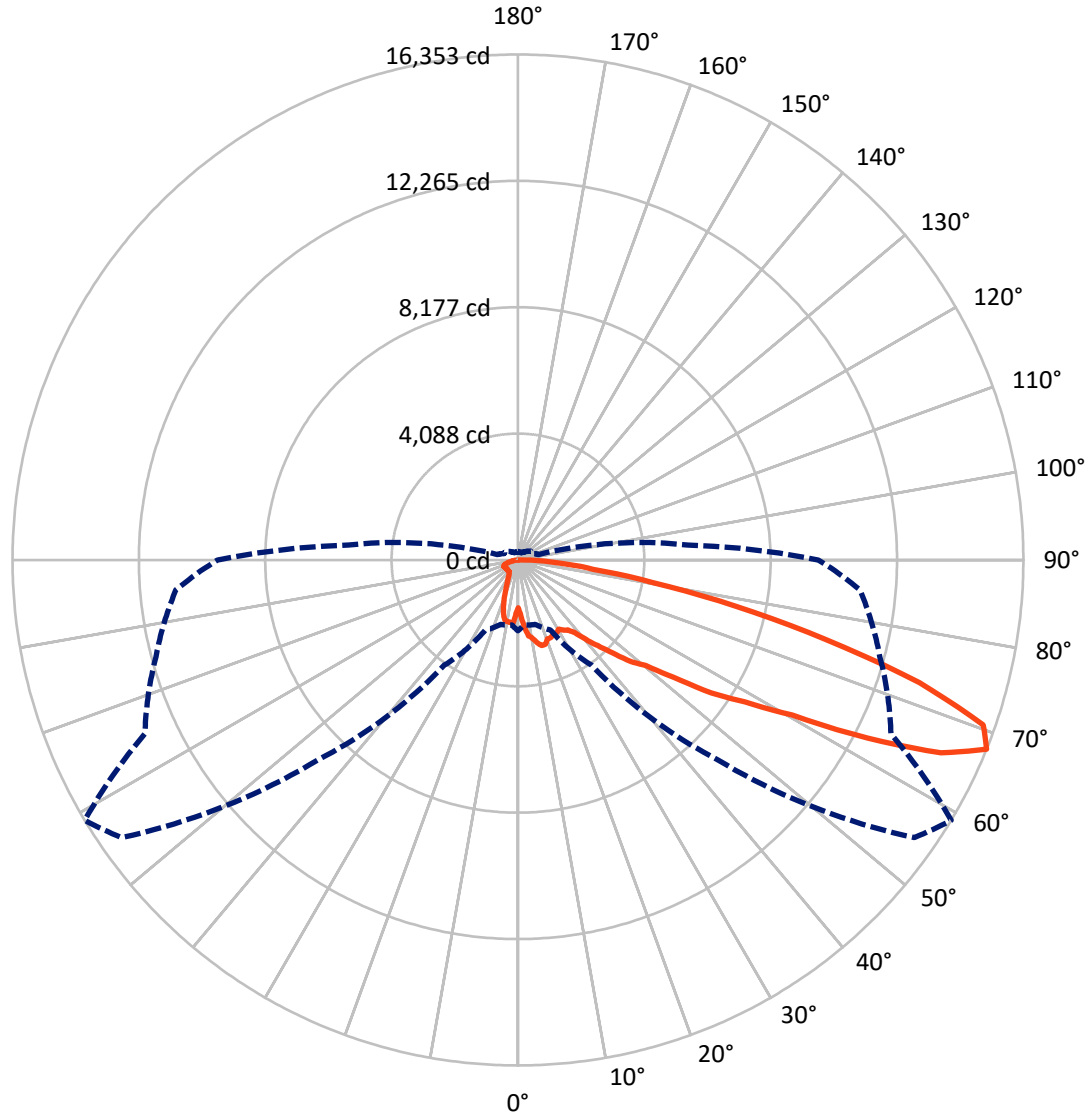
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.2 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
House Side	Lumens	2458.6	0.0	2458.6
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	13875.4	0.0	13875.4
	% Fixture	84.9	0.0	84.9
Total	Lumens	16334.0	0.0	16334.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.9	1.2
10°-20°	597.4	3.7
20°-30°	853.1	5.2
30°-40°	1257.1	7.7
40°-50°	2123.9	13.0
50°-60°	3696.0	22.6
60°-70°	4709.7	28.8
70°-80°	2493.9	15.3
80°-90°	401.2	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°	16334.0	100.0
0°-180°	16334.0	100.0

Coefficient of Utilization



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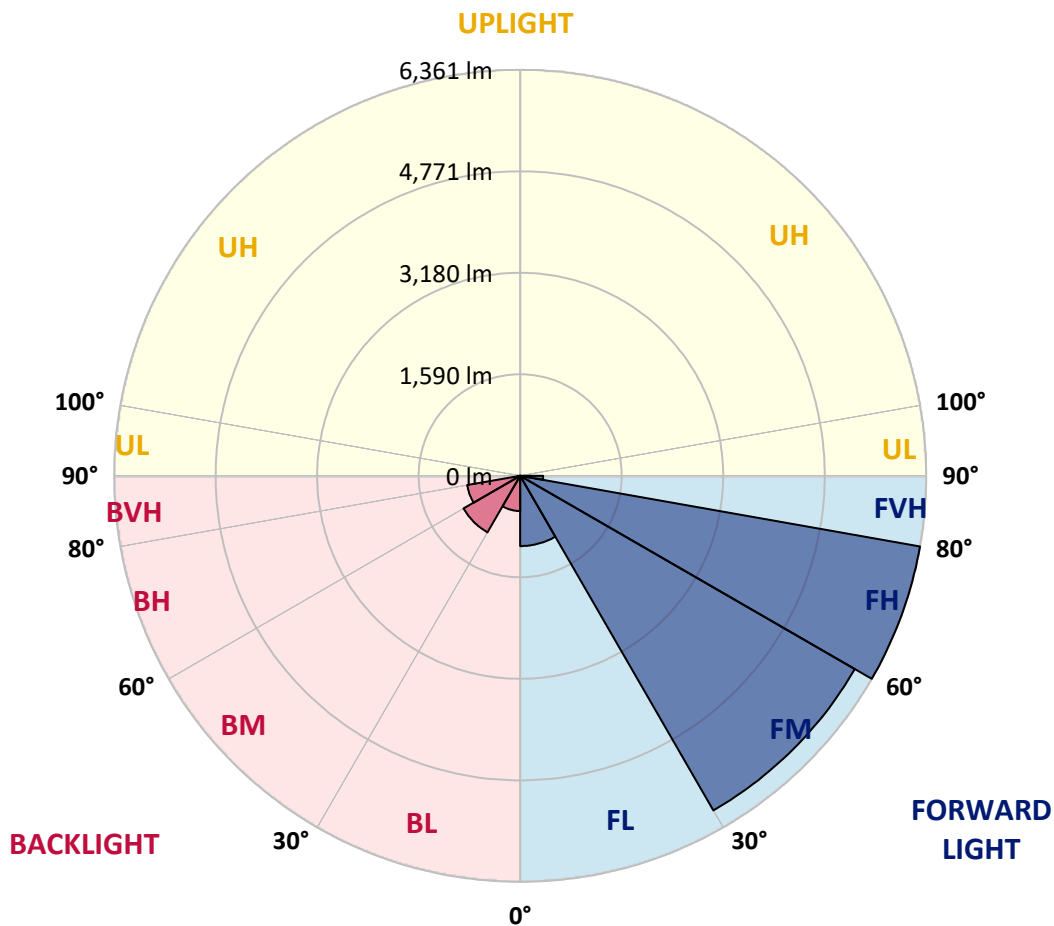
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1100.9	6.7			
FM (30°-60°)	6053.2	37.1			
FH (60°-80°)	6361.0	38.9			G3/7500
FVH (80°-90°)	360.3	2.2			G3/500
BL (0°-30°)	551.4	3.4	B2/1000		
BM (30°-60°)	1023.7	6.3	B2/2500		
BH (60°-80°)	842.7	5.2	B2/1000		G2/1000
BVH (80°-90°)	40.9	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°	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6
2.5°	1929.8	1839.8	1744.3	1771.3	1826.0	1850.9	1823.9	1797.6	1763.7	1723.5	1860.6
5°	2340.2	2206.7	2187.3	2186.6	2167.2	2089.7	2189.3	2182.4	2222.6	2264.1	2370.7
7.5°	2457.2	2407.4	2353.4	2379.0	2281.4	2277.3	2432.3	2476.6	2554.1	2528.5	2671.8
10°	2397.0	2340.9	2369.3	2358.9	2367.9	2470.4	2565.2	2568.0	2651.0	2732.7	2640.6
12.5°	2291.1	2295.3	2408.1	2403.9	2549.3	2739.6	2768.0	2745.9	2881.5	2826.2	2905.1
15°	2366.5	2417.1	2388.7	2412.9	2470.4	2712.6	2791.5	2871.8	3000.6	3050.4	2971.5
17.5°	2487.0	2514.0	2386.6	2373.5	2491.8	2606.7	2802.6	2871.1	2891.2	3246.3	3134.9
20°	2435.8	2490.4	2365.9	2206.0	2402.5	2554.8	2747.9	2727.2	2824.8	3261.5	3168.8
22.5°	2581.1	2490.4	2331.9	2218.4	2287.6	2427.5	2591.5	2727.9	2843.5	3172.2	3217.9
25°	2608.8	2565.9	2417.8	2304.9	2281.4	2331.2	2565.2	2654.5	2849.7	3294.1	3191.6
27.5°	2777.7	2713.3	2411.5	2415.0	2298.0	2210.1	2482.1	2669.7	2920.3	3218.6	3256.0
30°	2987.4	2938.3	2559.7	2573.5	2411.5	2249.6	2538.9	2595.7	2961.1	3336.3	3337.0
32.5°	3144.6	3231.1	2851.1	2662.8	2605.3	2484.2	2451.7	2707.1	2913.4	3549.5	3475.4
35°	3427.7	3494.8	3075.3	2924.4	2729.9	2593.6	2688.4	2780.5	3112.0	3829.8	3681.0
37.5°	3951.6	3874.1	3492.0	3254.6	3181.9	2985.4	3038.0	2973.6	3328.0	4144.7	4083.8
40°	4254.8	4187.7	3785.5	3654.0	3366.0	3391.0	3325.2	3372.3	3616.6	4479.8	4460.4
42.5°	4553.8	4463.8	4124.0	4032.6	3745.4	3623.5	3635.3	3787.6	4061.7	5021.0	4956.7
45°	4849.4	4618.9	4470.1	4494.3	4355.9	4106.0	4123.3	4266.6	4547.6	5639.8	5491.7
47.5°	5075.7	4885.4	4769.1	4739.3	4670.8	5005.1	4855.6	4913.8	5037.7	6190.8	6134.7
50°	5504.2	5282.0	5130.4	5087.5	5320.1	5785.2	5480.6	5355.4	5619.1	6903.1	6874.0
52.5°	6190.1	5913.3	5660.6	5657.8	5994.2	6296.0	6510.6	6294.6	6391.5	7632.6	7715.7
55°	6788.9	6468.4	6241.3	6366.6	6845.6	7030.4	7759.3	7590.4	7508.7	8369.1	8606.5
57.5°	7012.4	6638.0	6489.8	6674.6	7380.7	8330.3	9100.7	8656.3	8576.7	9202.5	9700.1
60°	6521.7	6125.7	6134.7	6482.9	7706.0	9284.8	10567.4	10190.2	9723.7	10240.0	10725.9
62.5°	5123.5	4765.6	4998.9	5528.4	7433.3	10212.4	12533.2	12692.4	11034.0	11100.4	11294.9
65°	3482.3	3234.5	3445.0	3963.4	6028.8	10718.3	14405.5	15043.7	12227.3	11663.8	11540.6
67.5°	2291.8	2116.7	2157.5	2502.2	4150.3	9137.4	15657.7	16353.3	13318.1	12126.2	11107.3
70°	1774.7	1633.5	1615.5	1796.2	2461.4	6347.9	14915.7	15973.3	13982.6	11692.9	9681.5
72.5°	1392.7	1285.4	1295.1	1468.8	1906.3	3521.8	11542.0	13583.2	12981.7	10084.3	7438.1
75°	1086.0	998.1	1047.3	1245.9	1763.0	2188.7	7963.5	10309.3	10036.5	7467.2	4242.3
77.5°	788.4	731.6	801.5	1061.1	1657.1	1877.9	4957.4	7192.4	6429.6	3834.0	1455.6
80°	517.1	485.2	542.7	865.2	1502.7	1807.3	3063.6	4407.1	3177.1	1077.0	551.0
82.5°	304.6	290.7	338.5	585.6	1207.8	1693.8	2043.3	2448.9	1299.9	455.5	292.8
85°	159.9	149.5	200.7	336.4	832.7	1546.3	1608.6	1466.0	627.8	198.0	139.8
87.5°	53.3	51.9	85.1	130.1	314.9	820.9	858.3	696.3	258.9	57.5	30.5
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°	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6	1545.6
2.5°	1879.3	1851.6	1692.4	1714.5	1735.3	1724.9	1718.7	1646.7	1639.8	1742.2	1733.9
5°	2367.9	2253.0	2117.4	2111.1	2021.8	1930.5	1948.5	1919.4	1927.7	1969.9	1974.1
7.5°	2626.1	2482.8	2353.4	2143.0	1964.4	1819.7	1842.6	1835.6	1817.0	1912.5	1938.1
10°	2621.3	2493.9	2347.9	2093.1	1972.7	1855.0	1713.8	1580.2	1540.8	1493.7	1497.9
12.5°	2794.3	2681.5	2363.1	2103.5	1940.2	1737.4	1472.9	1326.9	1187.1	1184.3	1149.0
15°	2848.3	2765.2	2395.6	2044.0	1712.4	1421.7	1148.3	989.8	888.8	868.7	838.9
17.5°	2984.7	2854.5	2296.6	1851.6	1448.0	1111.6	863.1	752.4	744.1	757.9	742.7
20°	2993.7	2782.5	2118.1	1567.1	1163.5	842.4	703.9	648.6	678.3	712.2	710.9
22.5°	2986.0	2691.9	1963.7	1324.8	874.2	676.9	616.7	604.3	632.0	682.5	688.7
25°	2908.5	2662.1	1770.6	1088.1	709.5	580.0	563.4	571.0	605.7	665.2	665.2
27.5°	2989.5	2541.0	1528.3	885.3	596.7	516.4	528.1	547.5	573.1	641.0	653.4
30°	2963.2	2581.1	1333.1	712.9	526.1	472.1	498.4	517.7	546.8	617.4	623.6
32.5°	3033.8	2473.8	1169.1	599.4	479.7	454.8	461.0	487.3	525.4	580.7	591.8
35°	3141.8	2513.3	980.8	539.2	456.8	434.7	446.5	467.2	505.3	559.3	568.3
37.5°	3486.5	2511.2	850.7	506.0	452.7	430.5	436.1	450.6	494.9	544.0	564.8
40°	3708.0	2655.2	732.3	498.4	447.8	428.5	423.6	439.5	474.8	533.0	547.5
42.5°	4124.0	2743.1	681.1	495.6	447.1	416.7	411.8	430.5	465.1	519.1	541.3
45°	4563.5	2868.4	640.3	494.2	445.1	414.6	400.1	423.6	452.7	504.6	530.2
47.5°	5080.6	3133.5	617.4	489.4	440.9	417.4	395.9	407.7	440.2	492.1	517.7
50°	5757.5	3484.4	622.3	482.4	447.1	418.1	389.7	395.2	425.0	475.5	501.8
52.5°	6580.5	4027.8	653.4	485.2	451.3	414.6	386.9	384.2	409.8	454.1	480.4
55°	7572.4	4798.8	746.9	498.4	451.3	413.9	382.8	370.3	389.7	425.7	451.3
57.5°	8769.2	5691.8	929.6	504.6	447.8	409.8	373.8	351.6	363.4	393.2	417.4
60°	9797.0	6412.3	1117.9	508.7	454.8	400.1	355.8	328.1	335.7	358.5	380.0
62.5°	10321.0	6614.4	1174.6	505.3	473.4	393.8	334.3	303.2	303.9	323.2	342.6
65°	10419.3	6345.2	946.9	501.8	497.7	393.2	319.1	281.7	276.9	290.7	307.3
67.5°	9718.8	5507.6	683.2	494.2	500.4	389.0	308.7	264.4	252.0	261.6	275.5
70°	8252.1	4435.5	573.8	479.0	467.2	368.2	290.7	246.4	229.8	236.7	247.1
72.5°	6152.1	3281.6	500.4	446.5	407.0	314.9	263.0	226.3	209.0	213.9	221.5
75°	3418.0	1750.5	418.8	388.3	332.2	254.7	224.3	200.7	185.5	187.6	195.9
77.5°	1135.2	645.8	307.3	308.0	251.3	196.6	184.8	171.7	159.9	160.6	167.5
80°	514.3	357.2	220.1	221.5	175.1	142.6	141.9	137.7	130.1	128.1	132.9
82.5°	298.3	216.7	150.9	144.0	112.8	92.8	103.1	101.1	99.0	91.4	92.8
85°	146.7	116.3	78.9	74.8	62.3	46.4	55.4	57.5	55.4	47.1	46.4
87.5°	36.0	38.1	19.4	18.0	10.4	4.8	8.3	8.3	10.4	6.9	3.5
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)