

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: P367388

Luminaire Tested: **MSA-SA2B-830-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367388  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2B-830-U-T4FT  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

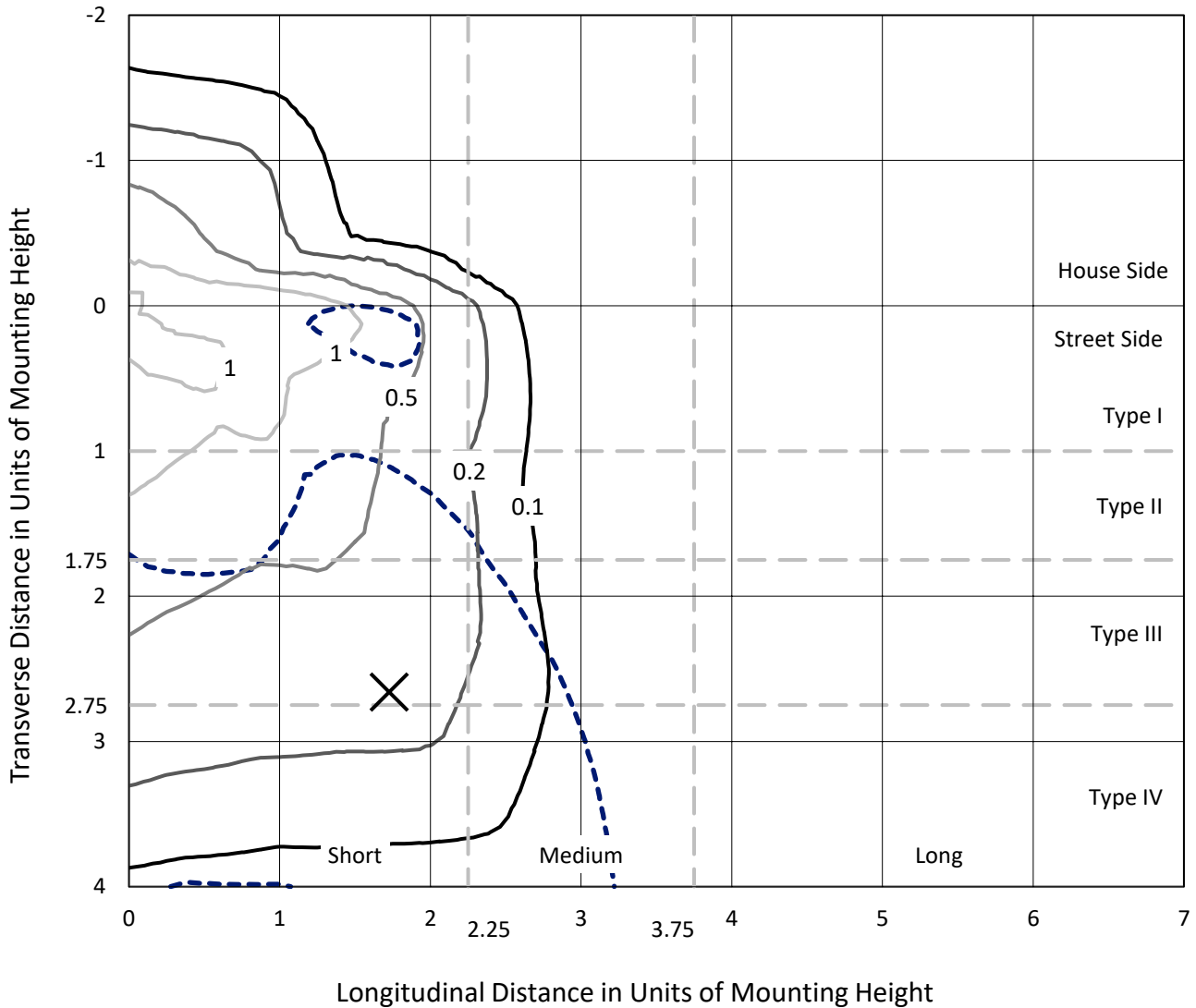
Lumens per Lamp: N/A  
Luminaire Lumens: 7934 lumens  
Efficiency: N/A  
Efficacy: 93.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

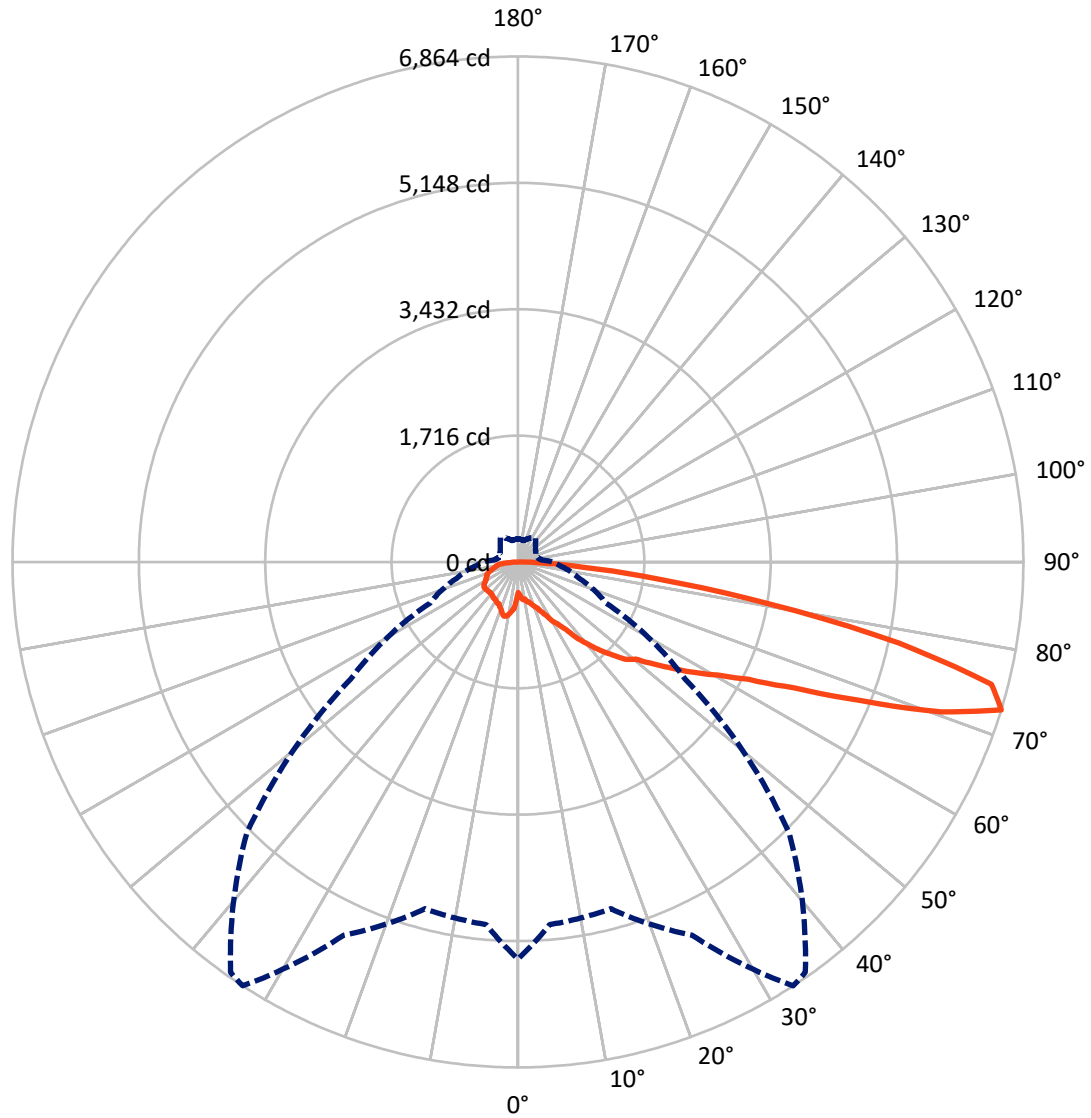
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.6 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral      - - - Horizontal Cone Through 72.5-Deg Vertical

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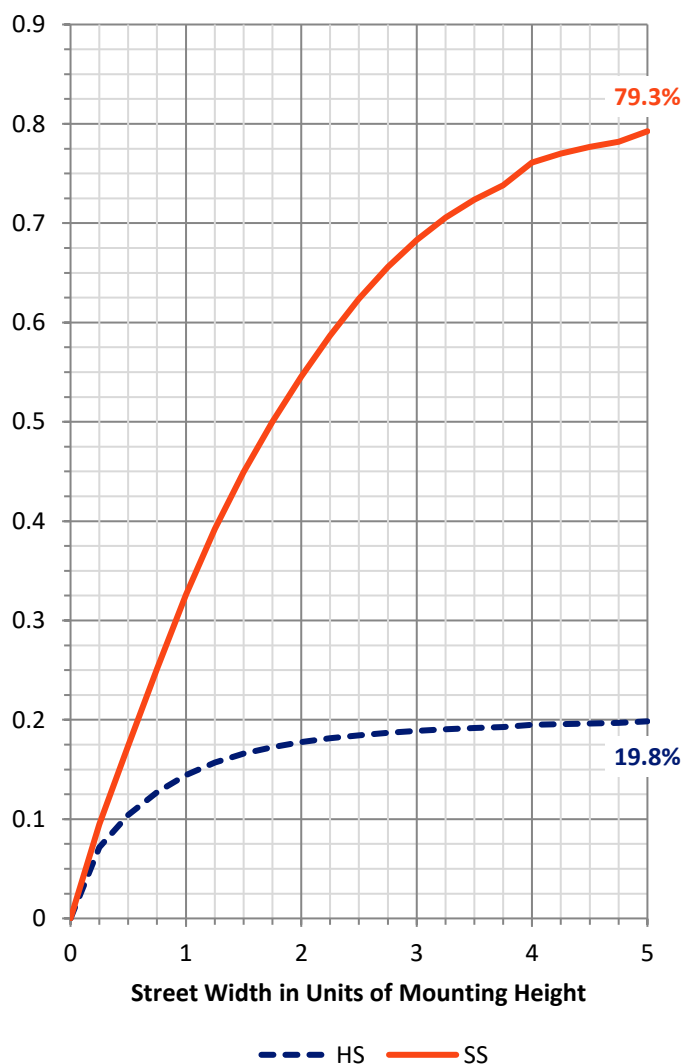
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1605.0	0.0	1605.0
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	6329.0	0.0	6329.0
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	7934.0	0.0	7934.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.2	0.7
10°-20°	211.4	2.7
20°-30°	385.5	4.9
30°-40°	652.1	8.2
40°-50°	1084.9	13.7
50°-60°	1592.2	20.1
60°-70°	2036.8	25.7
70°-80°	1657.1	20.9
80°-90°	256.7	3.2
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°	7934.0	100.0
0°-180°	7934.0	100.0

**Coefficient of Utilization**



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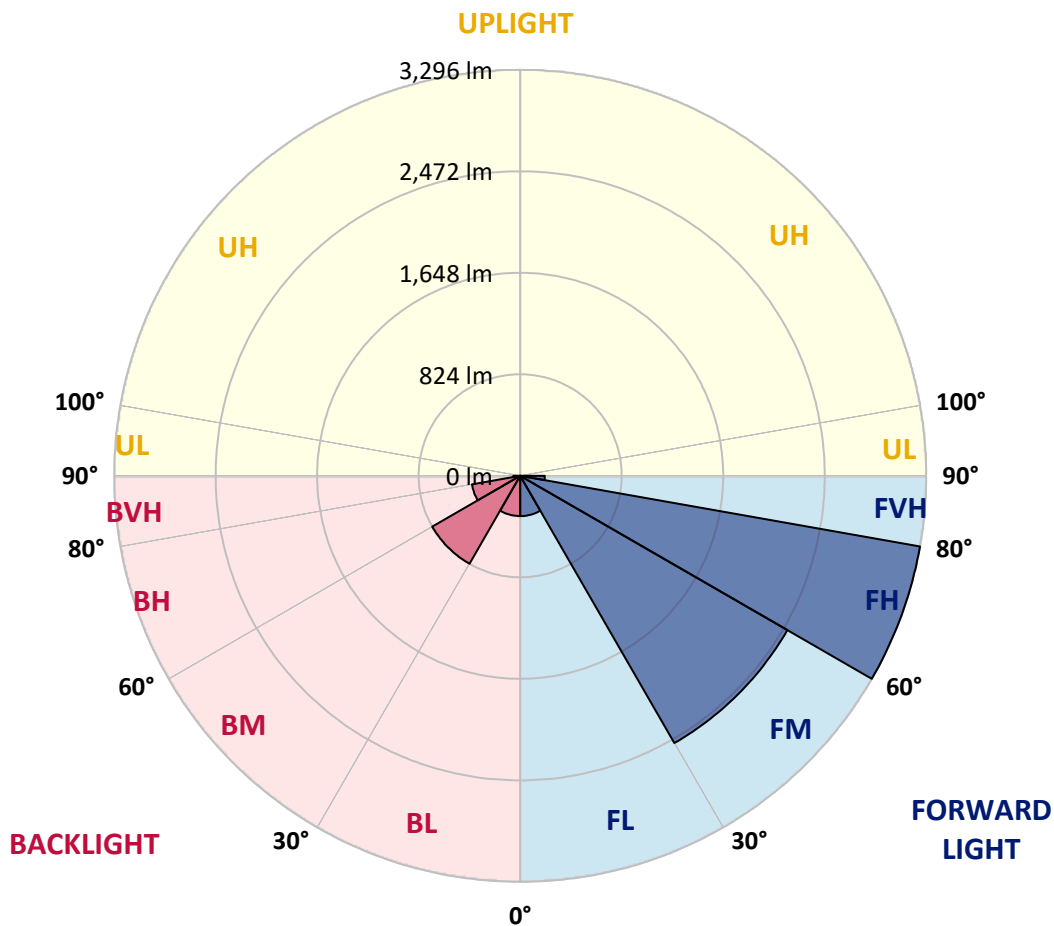
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	327.4	4.1			
FM (30°-60°)	2504.9	31.6			
FH (60°-80°)	3296.3	41.5			G2/5000
FVH (80°-90°)	200.3	2.5			G2/225
BL (0°-30°)	326.7	4.1	B1/500		
BM (30°-60°)	824.3	10.4	B1/1000		
BH (60°-80°)	397.7	5.0	B1/500		G1/500
BVH (80°-90°)	56.3	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	416.0	416.0	416.0	416.0	416.0	416.0	416.0	416.0	416.0	416.0	416.0
2.5°	471.7	456.8	432.5	431.8	445.3	448.3	457.2	457.8	461.1	455.9	493.4
5°	520.4	504.6	495.0	498.3	492.1	499.6	499.6	521.4	550.3	583.9	631.6
7.5°	531.9	520.4	509.5	517.7	519.0	511.8	518.7	569.7	622.1	655.6	732.0
10°	508.8	497.3	505.6	508.2	507.9	524.3	560.2	601.0	659.3	721.1	762.3
12.5°	504.6	512.8	516.7	521.4	552.6	557.6	611.9	654.0	712.6	766.9	873.9
15°	568.1	579.0	554.6	552.9	563.2	567.8	624.0	666.5	752.1	843.2	939.4
17.5°	658.6	662.6	618.8	596.4	604.0	607.6	632.3	685.6	738.3	906.8	1026.6
20°	746.2	748.8	666.5	616.5	643.1	647.1	670.1	700.7	742.2	942.3	1085.5
22.5°	838.0	821.2	731.0	667.8	683.3	684.3	697.8	714.6	773.5	936.7	1157.2
25°	938.4	927.8	814.3	753.7	753.1	739.6	740.2	764.3	806.7	996.6	1204.3
27.5°	1071.7	1073.0	908.1	875.5	824.5	815.6	771.2	815.9	864.3	997.3	1306.0
30°	1244.5	1212.5	1038.8	986.1	935.7	917.0	856.7	894.9	916.0	1054.2	1416.6
32.5°	1385.0	1375.8	1175.0	1095.4	1013.1	1034.8	968.3	934.7	972.6	1152.3	1584.1
35°	1519.6	1489.3	1319.2	1215.5	1128.9	1115.8	1072.7	1078.2	1101.3	1276.4	1803.0
37.5°	1720.4	1703.9	1523.2	1357.4	1316.9	1263.2	1235.9	1253.4	1235.2	1435.4	2131.2
40°	1944.9	1849.4	1693.7	1546.0	1470.3	1432.4	1441.9	1425.5	1411.7	1613.8	2425.4
42.5°	2159.8	2072.9	1807.0	1740.5	1641.7	1657.5	1605.2	1616.7	1655.9	1866.9	2697.6
45°	2393.8	2205.9	1927.1	1868.5	1797.7	1817.8	1859.6	1847.1	1911.3	2165.4	2954.0
47.5°	2510.7	2331.9	2074.5	1979.1	1978.1	1936.3	2190.7	2218.4	2118.0	2386.6	3214.3
50°	2623.2	2447.5	2184.1	2119.6	2072.9	2162.4	2508.3	2444.8	2304.9	2640.3	3500.7
52.5°	2779.9	2579.4	2309.9	2241.1	2299.0	2382.0	2761.8	2749.3	2488.3	2901.3	3749.5
55°	2899.4	2696.9	2499.1	2435.3	2545.9	2627.2	3019.8	2944.5	2645.3	3092.9	3907.2
57.5°	3108.7	2901.0	2778.6	2636.7	2835.5	2834.2	3268.7	3210.4	2813.1	3250.2	3970.7
60°	3441.4	3197.6	3069.5	2905.9	3118.9	3194.9	3553.0	3385.2	2931.9	3349.6	3856.2
62.5°	3908.5	3618.9	3411.2	3249.2	3508.9	3646.5	3904.2	3512.5	2939.5	3321.3	3555.0
65°	4486.1	4133.9	3861.8	3690.6	4119.1	4315.6	4328.8	3591.2	2869.7	3028.7	2921.7
67.5°	5049.6	4653.7	4369.6	4402.2	5027.9	5121.0	4788.9	3657.0	2494.9	2432.0	2028.8
70°	5420.5	4991.3	4802.1	5147.7	6098.2	6002.8	5161.8	3483.6	1964.6	1576.6	1142.4
72.5°	5392.6	4943.3	4875.2	5590.7	6863.8	6804.2	5207.3	2770.3	1315.9	862.0	569.7
75°	4393.3	4044.1	4198.8	5292.5	6643.3	6640.3	4521.0	1714.8	675.1	442.7	360.1
77.5°	2429.0	2293.4	2748.0	4007.2	5289.5	5316.5	3054.7	777.7	364.0	313.7	271.2
80°	850.8	838.3	1190.8	2162.4	3479.6	3486.2	1420.6	355.8	264.6	237.3	199.1
82.5°	311.0	308.4	493.7	1004.5	1915.9	1911.6	538.8	221.5	196.2	167.9	131.3
85°	124.1	121.5	225.8	446.0	880.1	866.0	209.3	125.7	128.4	100.1	64.5
87.5°	34.2	35.5	76.7	139.6	269.6	249.8	52.7	42.5	52.0	40.8	20.4
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°	416.0	416.0	416.0	416.0	416.0	416.0	416.0	416.0	416.0	416.0	416.0
2.5°	500.0	503.2	470.7	482.2	497.0	504.9	508.8	492.1	497.7	521.4	520.4
5°	641.5	628.3	615.8	628.7	620.1	607.9	627.7	626.7	639.5	652.3	655.3
7.5°	747.1	730.0	724.1	695.1	666.2	636.9	662.2	678.0	681.3	713.2	726.7
10°	785.3	778.7	781.0	742.9	739.2	742.2	718.8	693.5	709.0	695.8	705.7
12.5°	873.5	890.0	849.2	823.2	820.9	802.8	756.0	739.6	722.1	740.2	731.0
15°	944.3	974.9	931.1	885.4	833.7	805.7	765.9	740.9	729.4	733.3	722.1
17.5°	1048.0	1076.6	965.4	895.3	841.9	800.8	739.9	686.6	714.9	717.2	704.4
20°	1116.8	1118.7	976.9	870.9	822.8	751.4	692.2	645.4	678.0	711.3	725.7
22.5°	1183.9	1169.1	991.0	851.5	753.4	684.3	655.3	652.3	676.7	704.7	708.0
25°	1234.3	1236.6	999.3	844.2	712.6	618.4	618.4	639.8	661.2	727.7	724.4
27.5°	1356.4	1266.5	967.3	811.0	656.0	579.9	618.8	647.4	657.6	729.7	736.9
30°	1445.2	1386.7	973.9	754.1	598.7	561.8	593.8	629.6	657.9	741.2	738.6
32.5°	1594.3	1436.7	989.4	674.1	555.9	554.9	583.2	621.1	655.0	728.7	732.7
35°	1759.2	1584.1	946.3	613.2	545.7	551.0	587.5	602.6	642.5	723.8	727.4
37.5°	2064.3	1661.2	918.9	566.1	539.1	554.3	568.1	591.5	631.6	699.1	722.8
40°	2243.4	1819.8	817.6	538.8	525.3	551.6	558.5	578.3	600.0	669.5	684.6
42.5°	2479.1	1869.8	731.0	508.5	518.4	540.8	561.5	566.4	580.9	622.7	650.4
45°	2675.5	1907.3	639.2	484.2	495.0	564.8	566.1	563.8	561.2	576.6	599.4
47.5°	2879.0	2008.1	554.6	457.2	486.1	584.5	568.4	547.4	536.5	538.5	559.5
50°	3103.4	2081.1	494.7	435.1	488.1	584.5	579.6	530.6	508.8	503.2	525.3
52.5°	3300.9	2089.7	449.3	417.3	479.9	564.5	587.2	520.0	483.5	470.0	490.7
55°	3408.5	1981.4	416.4	401.2	458.8	546.4	583.2	514.1	452.9	442.7	461.1
57.5°	3406.2	1801.7	388.4	378.8	434.8	521.0	561.2	481.9	434.1	428.2	446.3
60°	3283.5	1591.0	367.0	360.4	410.1	484.2	521.7	460.8	416.0	413.1	432.8
62.5°	3005.0	1373.5	346.3	341.0	387.1	458.2	502.9	437.4	397.3	396.9	415.7
65°	2461.0	1102.6	326.8	325.5	365.7	432.5	485.1	417.7	377.8	384.4	403.5
67.5°	1695.7	774.8	306.1	310.0	345.9	407.8	471.7	404.5	357.4	370.9	388.1
70°	930.5	479.2	283.1	291.0	320.9	379.2	450.6	383.1	330.8	351.5	363.4
72.5°	473.3	319.6	254.4	266.9	290.3	337.0	411.1	352.2	302.1	310.0	316.3
75°	317.9	240.6	222.5	236.3	253.1	296.9	364.7	323.2	274.8	273.8	280.8
77.5°	240.3	187.9	188.9	204.7	215.6	261.0	327.8	298.9	251.8	249.5	259.7
80°	175.8	142.5	152.1	168.5	178.4	234.3	303.8	271.9	220.5	211.3	219.9
82.5°	116.5	101.0	112.6	129.0	136.9	195.8	275.8	230.7	179.7	156.3	157.7
85°	55.0	53.0	67.1	75.0	85.2	121.5	206.4	159.6	114.5	94.8	99.1
87.5°	12.5	16.8	22.1	21.7	25.3	32.6	64.2	44.8	33.2	22.7	15.1
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)