

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: P367113

Luminaire Tested: **MSA-SA1D-830-U-SL4-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367113  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-830-U-SL4-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4507 lumens  
Efficiency: N/A  
Efficacy: 67.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G2

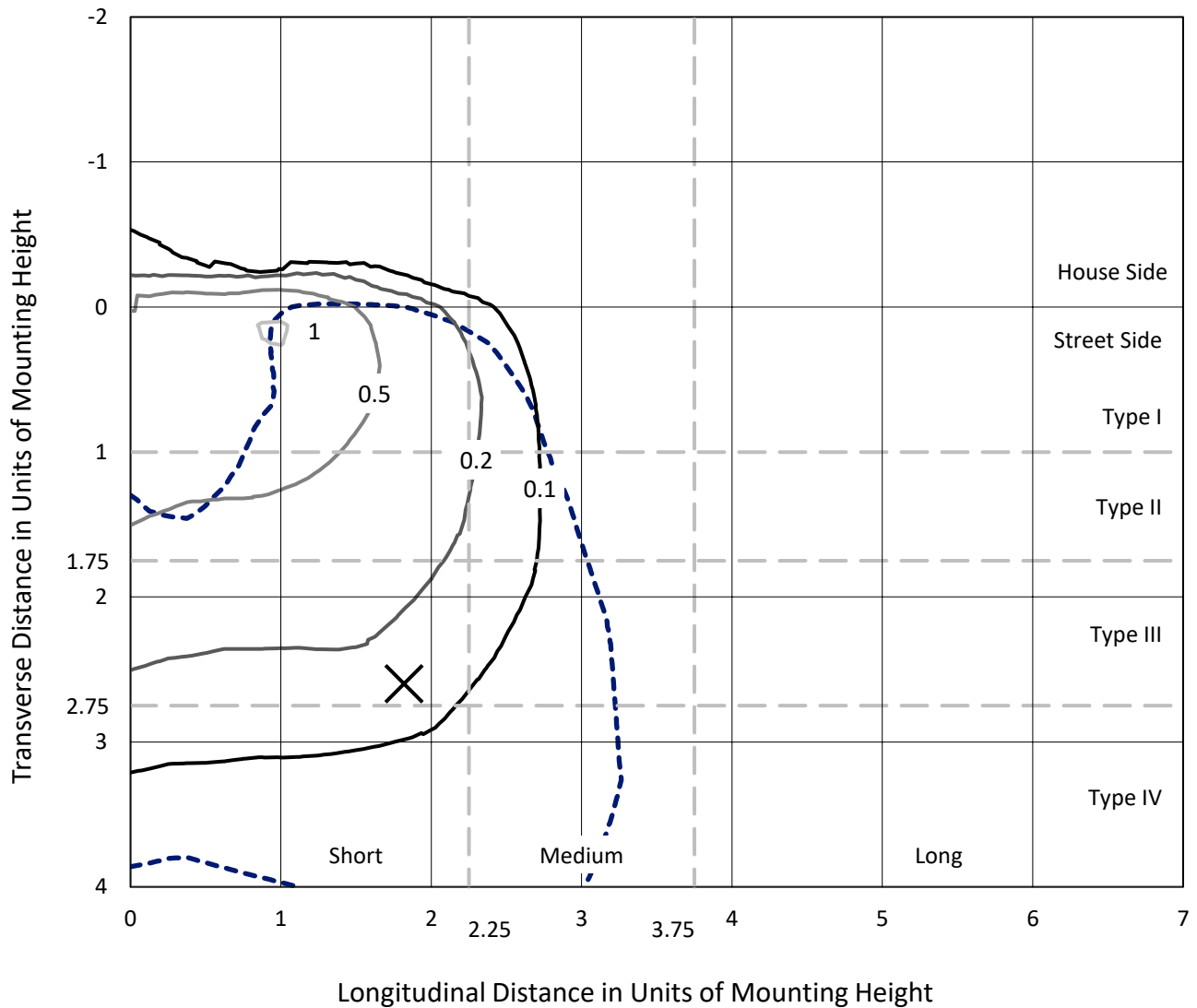
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

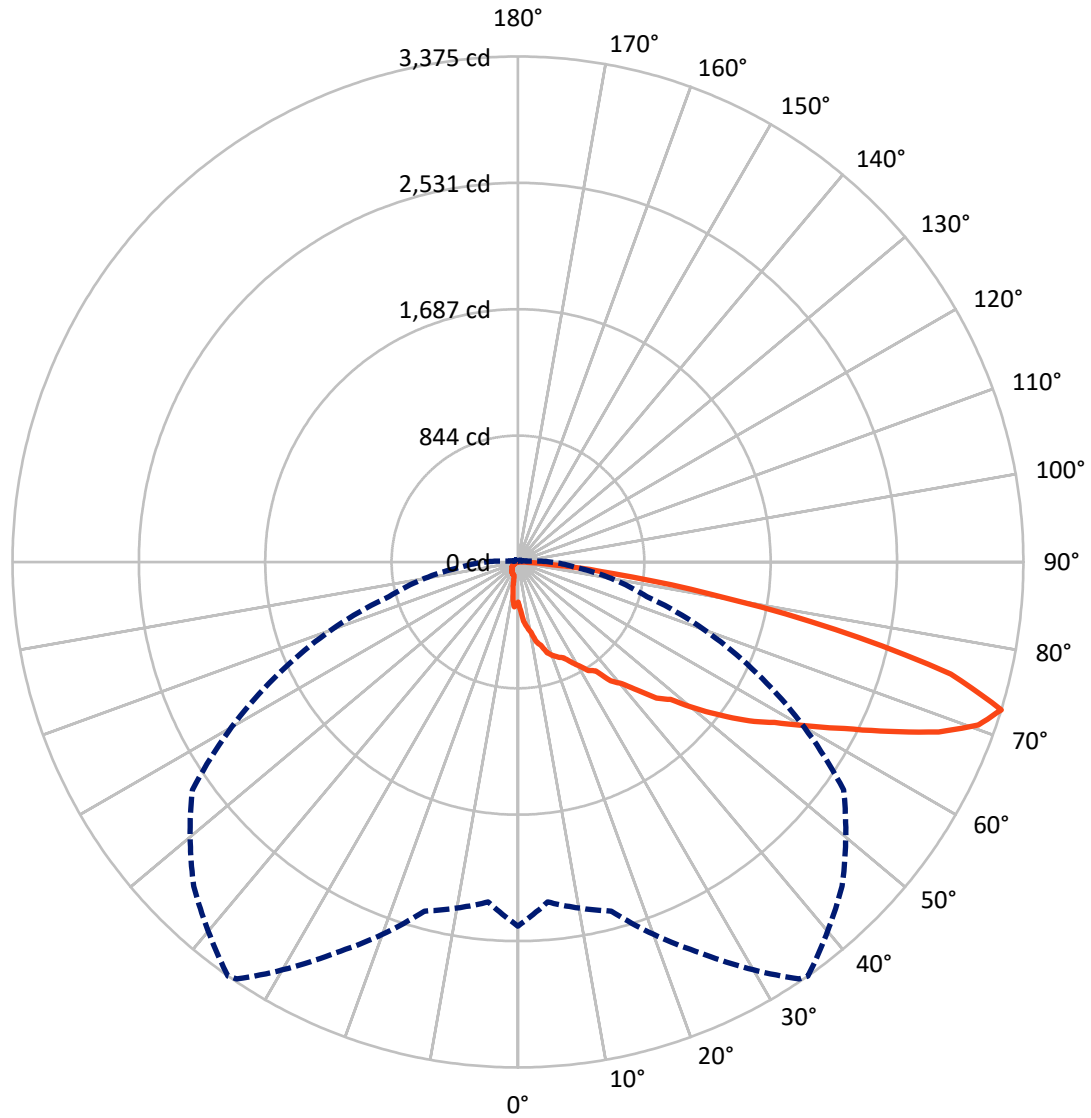
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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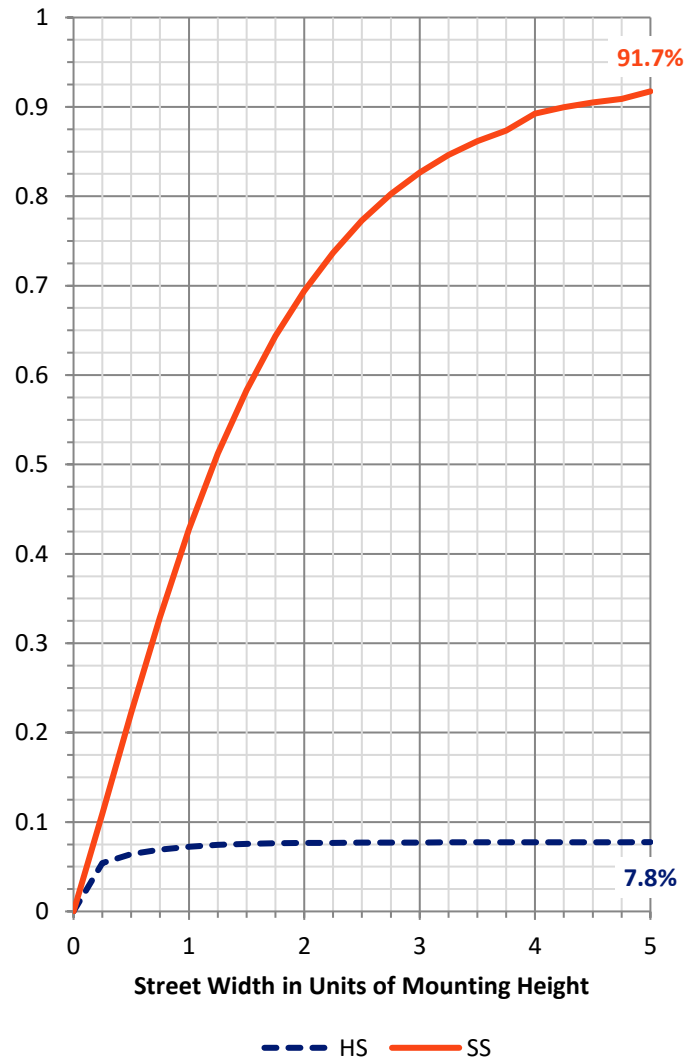
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	351.5	0.0	351.5
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	4155.5	0.0	4155.5
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	4507.0	0.0	4507.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	34.2	0.8
10°-20°	115.3	2.6
20°-30°	210.0	4.7
30°-40°	362.3	8.0
40°-50°	644.1	14.3
50°-60°	961.1	21.3
60°-70°	1227.9	27.2
70°-80°	854.3	19.0
80°-90°	97.7	2.2
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°	4507.0	100.0
0°-180°	4507.0	100.0

**Coefficient of Utilization**

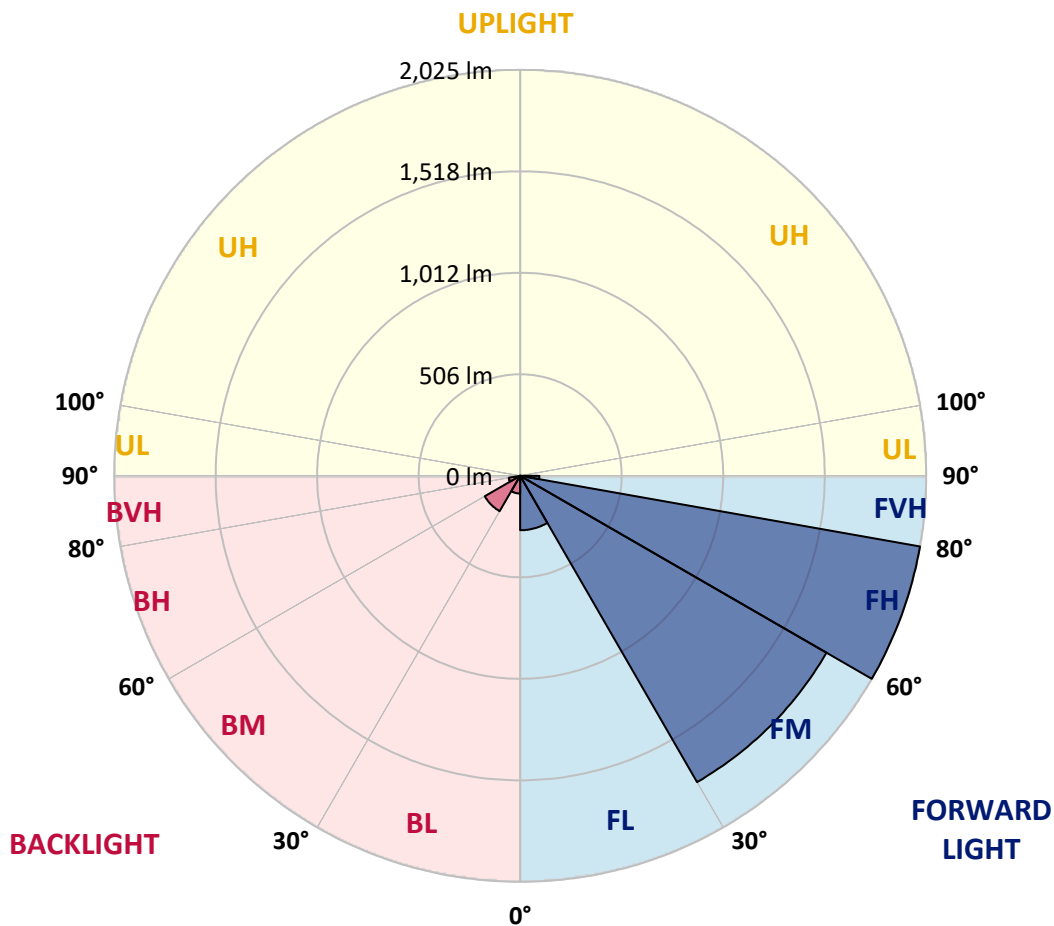


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	271.2	6.0			
FM (30°-60°)	1763.6	39.1			
FH (60°-80°)	2024.6	44.9			G2/5000
FVH (80°-90°)	96.1	2.1			G1/100
BL (0°-30°)	88.4	2.0	B0/110		
BM (30°-60°)	203.8	4.5	B0/220		
BH (60°-80°)	57.6	1.3	B0/110		G0/110
BVH (80°-90°)	1.6	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G2**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	268.5	268.5	268.5	268.5	268.5	268.5	268.5	268.5	268.5	268.5	268.5
2.5°	341.7	328.3	306.5	308.1	317.9	319.9	322.9	315.2	308.4	296.3	319.7
5°	437.7	418.5	406.2	402.4	396.7	397.2	383.4	388.3	387.0	395.8	406.5
7.5°	491.9	481.2	465.8	461.5	440.7	438.4	421.4	444.3	446.6	443.4	460.8
10°	513.4	499.4	501.2	485.1	474.7	477.4	480.1	481.9	484.9	487.8	466.5
12.5°	526.1	528.6	553.3	536.5	546.9	546.9	565.3	545.8	546.5	525.2	528.8
15°	583.2	597.0	585.9	585.7	574.3	577.3	598.6	583.2	591.1	584.8	560.3
17.5°	654.8	657.5	636.4	627.1	637.3	637.6	628.5	627.8	600.2	646.8	617.2
20°	677.7	693.1	663.2	626.9	669.3	667.2	666.6	655.9	609.9	674.7	650.2
22.5°	740.0	718.0	697.6	673.8	690.3	690.3	687.9	664.5	646.6	672.2	682.6
25°	759.5	762.2	735.7	728.0	728.4	708.0	706.2	696.2	679.0	722.7	701.9
27.5°	826.5	825.4	761.7	783.2	755.8	756.1	706.0	728.4	731.4	725.2	748.6
30°	892.4	910.8	814.7	841.9	813.1	804.5	755.6	775.5	780.7	773.7	803.2
32.5°	976.5	1003.5	910.1	883.4	839.4	863.9	830.1	783.0	808.8	871.6	888.1
35°	1065.5	1078.7	979.2	941.8	892.2	892.0	890.9	894.7	923.3	993.9	1008.0
37.5°	1225.5	1194.5	1104.5	1018.9	1030.0	1005.3	988.1	1006.2	1035.9	1152.3	1212.4
40°	1314.8	1292.3	1165.7	1114.9	1059.9	1068.9	1115.6	1113.6	1192.6	1314.5	1404.5
42.5°	1401.5	1380.2	1255.6	1214.6	1143.9	1168.6	1189.0	1214.8	1376.8	1573.5	1622.9
45°	1478.8	1416.3	1328.4	1329.9	1293.2	1296.2	1332.2	1356.0	1590.3	1791.9	1826.6
47.5°	1525.5	1474.0	1389.8	1388.2	1385.9	1372.1	1541.8	1563.5	1760.4	1999.9	2003.1
50°	1591.2	1526.8	1453.0	1454.3	1506.7	1535.9	1738.4	1736.2	1924.7	2173.5	2100.3
52.5°	1673.0	1594.3	1513.0	1573.5	1654.4	1702.0	1866.5	1933.5	2101.2	2282.4	2138.3
55°	1777.6	1679.3	1600.9	1678.4	1854.9	1873.3	1991.7	2133.4	2293.5	2393.7	2150.6
57.5°	1900.4	1783.1	1719.6	1844.5	2020.5	2021.0	2174.1	2346.3	2411.6	2439.0	2136.7
60°	2032.8	1895.9	1832.0	1944.4	2203.1	2221.7	2376.9	2463.9	2531.4	2461.9	2112.1
62.5°	2149.2	1998.1	1948.5	2080.6	2403.4	2447.4	2553.6	2541.2	2618.0	2490.6	2049.3
65°	2287.9	2130.4	2097.8	2292.9	2664.9	2725.4	2752.1	2678.2	2647.0	2468.4	1885.9
67.5°	2425.2	2277.9	2277.0	2528.3	3007.7	3028.5	3000.4	2871.5	2613.2	2272.7	1586.6
70°	2521.9	2363.8	2423.4	2786.1	3319.2	3260.7	3142.5	2962.8	2369.4	1741.8	1036.5
72.5°	2431.1	2278.6	2412.9	2877.8	3357.7	3374.5	3060.2	2654.0	1760.4	890.9	375.2
75°	1847.4	1754.1	2095.1	2553.2	2981.2	2985.0	2554.3	1871.9	866.8	242.0	103.8
77.5°	930.5	900.8	1326.1	1812.5	2175.0	2168.7	1755.0	1002.8	278.9	80.4	52.3
80°	471.0	447.2	564.4	977.9	1291.7	1301.2	1002.1	449.1	140.7	43.7	36.3
82.5°	289.3	274.6	308.8	442.5	626.9	642.1	380.2	284.3	87.2	25.8	33.1
85°	56.0	58.9	177.4	221.6	250.4	244.5	112.6	234.0	26.3	15.4	24.0
87.5°	0.0	0.9	41.0	72.3	72.5	64.3	25.6	51.9	3.6	4.3	2.9
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°	268.5	268.5	268.5	268.5	268.5	268.5	268.5	268.5	268.5	268.5	268.5
2.5°	323.5	320.1	291.8	288.6	289.3	284.6	283.0	273.0	270.5	285.9	288.6
5°	401.9	379.3	353.0	343.5	328.7	303.8	300.2	293.9	286.8	289.6	287.5
7.5°	450.0	419.8	391.7	341.7	300.2	264.0	258.1	247.2	236.3	236.5	243.6
10°	457.7	432.3	393.5	332.6	285.2	239.9	200.5	172.0	159.0	147.5	150.9
12.5°	502.3	478.7	407.4	329.9	263.5	192.8	141.2	113.3	101.0	97.0	96.5
15°	538.1	519.5	430.9	321.5	215.2	135.7	101.0	92.9	90.6	94.5	93.3
17.5°	591.3	557.8	428.4	286.8	164.0	103.1	93.1	92.0	94.7	97.0	97.7
20°	614.7	566.4	411.4	232.5	122.8	94.5	90.9	88.6	93.6	100.4	99.0
22.5°	638.2	581.1	391.5	190.3	98.8	90.4	88.4	86.5	90.4	97.0	98.6
25°	648.9	604.7	369.3	148.6	91.8	85.6	84.3	85.0	88.1	94.0	93.3
27.5°	702.6	607.4	326.9	117.4	88.8	82.2	82.2	83.8	83.8	91.8	91.1
30°	736.1	653.4	292.5	98.8	85.4	77.5	80.2	80.9	79.8	88.4	89.0
32.5°	795.0	666.1	259.0	90.6	80.0	76.8	76.4	76.8	77.7	86.1	86.3
35°	885.6	728.6	213.2	87.5	77.3	73.4	70.2	72.7	75.0	81.1	82.2
37.5°	1062.8	792.8	173.8	85.0	75.9	70.2	69.1	68.6	72.7	79.8	82.0
40°	1206.2	906.3	141.4	82.9	73.2	68.4	65.5	65.7	69.3	74.5	77.9
42.5°	1409.2	988.3	119.9	79.8	69.3	64.6	61.2	63.2	64.8	70.2	72.5
45°	1578.7	1051.9	105.6	77.7	65.5	60.9	58.2	60.5	58.9	61.6	64.8
47.5°	1713.5	1107.5	94.9	72.7	63.0	58.9	55.5	54.8	52.1	52.8	55.7
50°	1787.6	1098.2	86.1	67.7	59.8	56.9	52.1	47.4	43.7	43.5	45.3
52.5°	1813.9	1048.6	78.8	63.4	56.0	52.3	46.9	40.3	36.7	35.6	37.2
55°	1821.1	977.2	72.3	58.7	52.3	46.7	41.0	34.0	30.1	28.3	29.9
57.5°	1797.6	867.3	65.9	54.1	48.0	41.2	35.1	27.9	24.2	22.0	23.3
60°	1739.4	727.7	60.3	48.5	43.5	36.5	29.7	22.4	18.6	16.5	17.2
62.5°	1610.4	570.5	54.1	43.3	38.7	31.9	24.9	17.7	14.0	12.2	12.5
65°	1414.2	425.3	47.1	38.3	34.4	27.6	19.9	13.6	10.6	9.1	8.8
67.5°	1126.7	288.2	40.1	33.1	30.6	23.3	15.9	10.6	8.4	7.3	6.8
70°	662.3	145.2	33.3	28.5	26.3	19.5	12.5	8.6	7.7	6.8	6.3
72.5°	218.4	62.8	26.1	23.6	21.8	15.6	9.7	7.9	7.5	6.6	6.1
75°	76.1	36.3	19.3	18.1	17.2	11.8	8.2	7.3	7.3	6.3	5.7
77.5°	49.8	28.1	14.3	13.1	12.9	8.6	7.0	6.8	6.3	5.2	4.3
80°	41.5	15.9	10.0	9.3	9.1	5.4	5.7	5.0	3.9	2.3	0.9
82.5°	38.3	9.5	5.2	5.7	5.2	2.0	3.2	2.7	2.0	0.9	0.0
85°	22.4	4.3	2.9	2.9	2.3	0.5	1.6	1.6	0.9	0.2	0.0
87.5°	2.5	2.0	1.6	1.6	1.1	0.0	0.7	0.5	0.0	0.0	0.0
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)