

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: P367003

Luminaire Tested: **MSA-SA1D-727-U-SL4-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367003  
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-727-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: 4743 lumens  
Efficiency: N/A  
Efficacy: 70.8 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

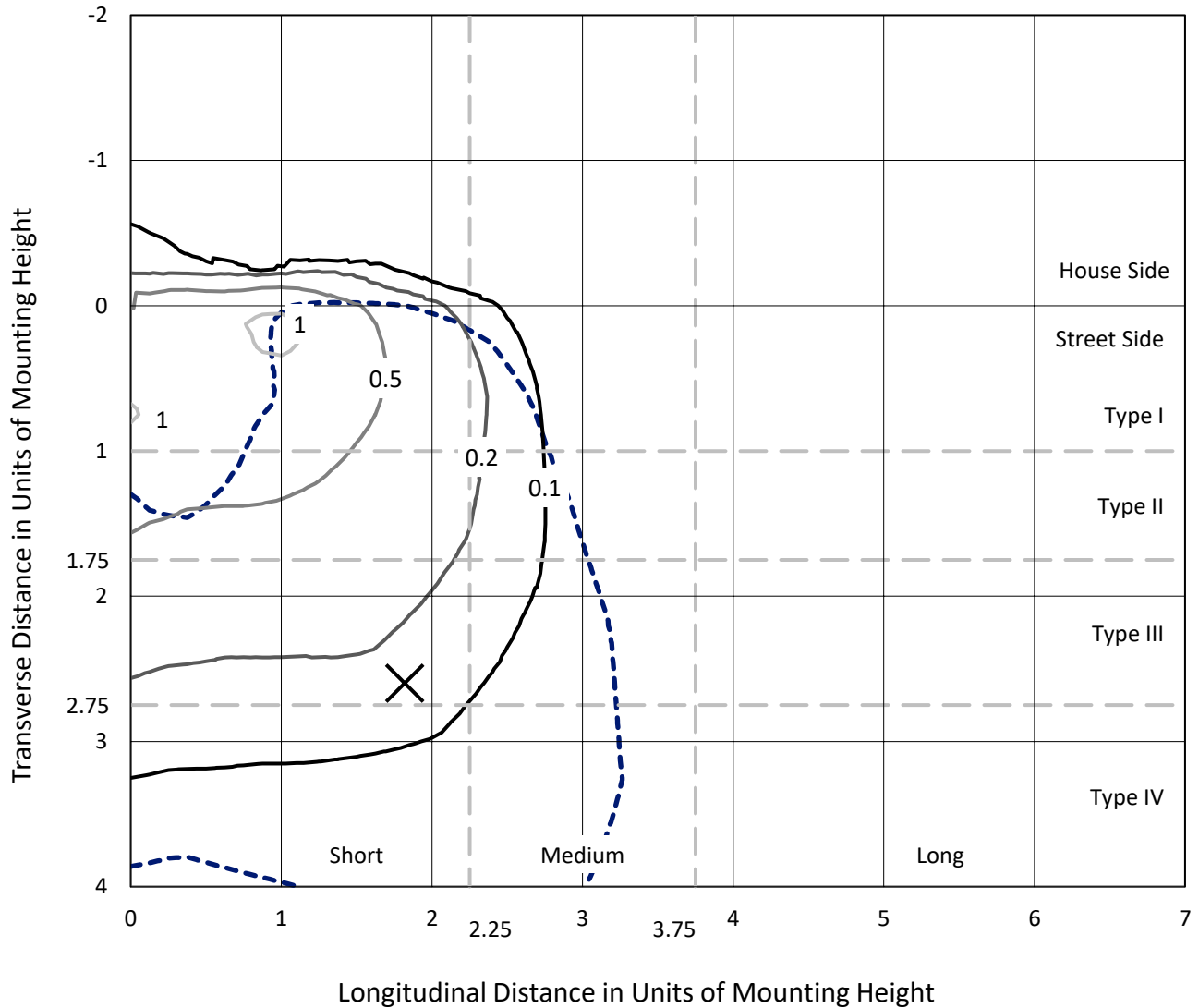
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

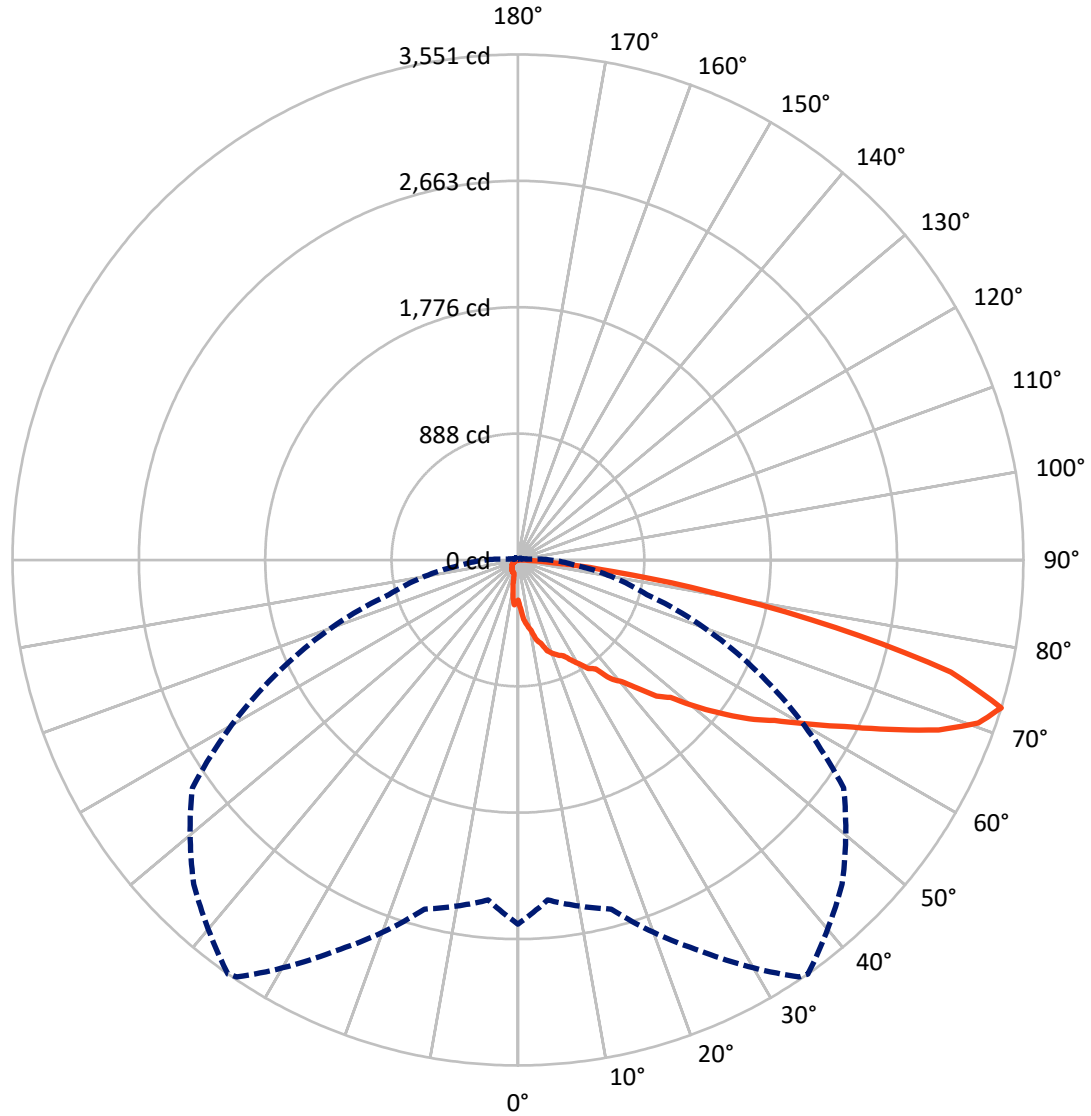
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 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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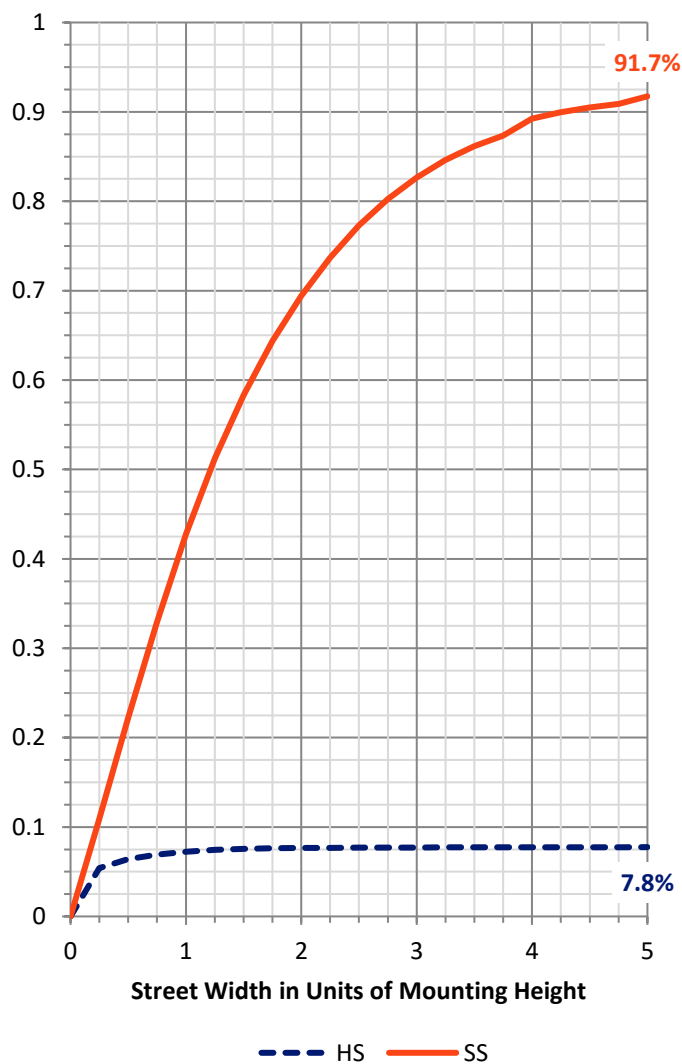
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	370.0	0.0	370.0
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	4373.1	0.0	4373.1
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	4743.0	0.0	4743.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.0	0.8
10°-20°	121.4	2.6
20°-30°	221.0	4.7
30°-40°	381.3	8.0
40°-50°	677.8	14.3
50°-60°	1011.4	21.3
60°-70°	1292.2	27.2
70°-80°	899.0	19.0
80°-90°	102.8	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°	4743.0	100.0
0°-180°	4743.0	100.0

**Coefficient of Utilization**

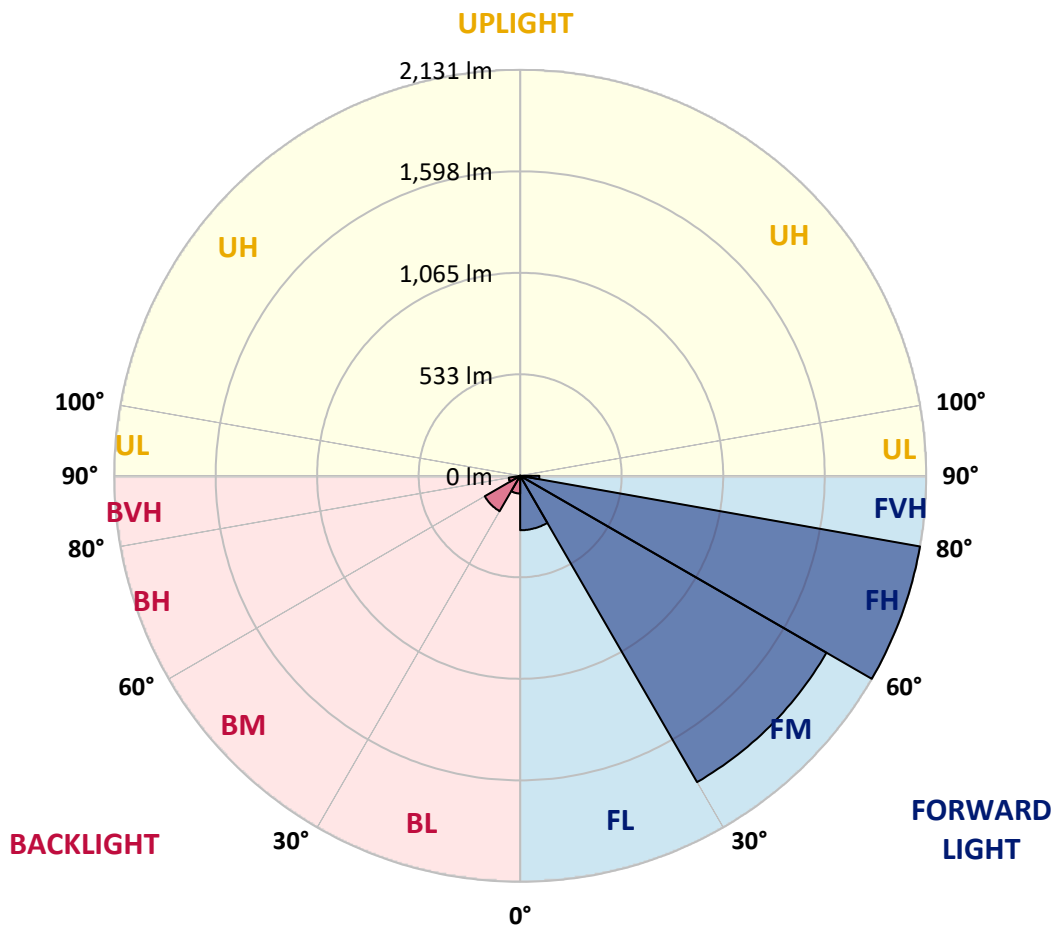


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	285.4	6.0			
FM (30°-60°)	1856.0	39.1			
FH (60°-80°)	2130.6	44.9			G2/5000
FVH (80°-90°)	101.1	2.1			G2/225
BL (0°-30°)	93.0	2.0	B0/110		
BM (30°-60°)	214.5	4.5	B0/220		
BH (60°-80°)	60.7	1.3	B0/110		G0/110
BVH (80°-90°)	1.7	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°	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5
2.5°	359.6	345.5	322.6	324.3	334.5	336.7	339.8	331.7	324.5	311.9	336.4
5°	460.6	440.4	427.5	423.5	417.5	418.0	403.4	408.7	407.2	416.5	427.7
7.5°	517.6	506.4	490.2	485.7	463.7	461.4	443.5	467.6	469.9	466.6	485.0
10°	540.3	525.5	527.4	510.5	499.5	502.4	505.2	507.1	510.2	513.3	490.9
12.5°	553.6	556.3	582.2	564.6	575.6	575.6	594.9	574.4	575.1	552.7	556.5
15°	613.7	628.3	616.6	616.3	604.4	607.5	629.9	613.7	622.1	615.4	589.6
17.5°	689.1	691.9	669.8	660.0	670.7	670.9	661.4	660.7	631.6	680.7	649.5
20°	713.1	729.4	697.9	659.7	704.3	702.2	701.5	690.3	641.9	710.0	684.3
22.5°	778.7	755.6	734.1	709.1	726.5	726.5	723.9	699.3	680.5	707.4	718.4
25°	799.2	802.1	774.2	766.1	766.6	745.1	743.2	732.7	714.6	760.6	738.7
27.5°	869.8	868.6	801.6	824.3	795.4	795.6	742.9	766.6	769.7	763.2	787.8
30°	939.2	958.5	857.4	886.0	855.7	846.7	795.2	816.1	821.6	814.2	845.2
32.5°	1027.6	1056.0	957.8	929.6	883.4	909.1	873.6	824.0	851.2	917.2	934.6
35°	1121.3	1135.2	1030.5	991.2	938.9	938.7	937.5	941.6	971.6	1046.0	1060.8
37.5°	1289.7	1257.0	1162.3	1072.2	1083.9	1057.9	1039.8	1058.9	1090.1	1212.7	1275.8
40°	1383.6	1360.0	1226.7	1173.3	1115.4	1124.9	1174.0	1171.9	1255.1	1383.4	1478.0
42.5°	1474.9	1452.5	1321.4	1278.2	1203.8	1229.8	1251.3	1278.5	1448.9	1655.9	1707.9
45°	1556.2	1490.4	1397.9	1399.6	1361.0	1364.1	1402.0	1427.0	1673.5	1885.7	1922.2
47.5°	1605.4	1551.2	1462.5	1460.9	1458.5	1443.9	1622.5	1645.4	1852.6	2104.6	2108.0
50°	1674.5	1606.8	1529.1	1530.5	1585.6	1616.3	1829.5	1827.1	2025.5	2287.3	2210.2
52.5°	1760.6	1677.8	1592.2	1655.9	1741.0	1791.1	1964.2	2034.8	2211.2	2401.9	2250.3
55°	1870.7	1767.2	1684.7	1766.3	1952.0	1971.3	2096.0	2245.1	2413.6	2519.0	2263.2
57.5°	2000.0	1876.4	1809.7	1941.1	2126.3	2126.8	2288.0	2469.2	2537.9	2566.7	2248.6
60°	2139.2	1995.2	1927.9	2046.2	2318.5	2338.0	2501.4	2592.9	2664.0	2590.8	2222.6
62.5°	2261.7	2102.7	2050.5	2189.5	2529.3	2575.5	2687.3	2674.2	2755.1	2621.1	2156.6
65°	2407.7	2242.0	2207.6	2412.9	2804.4	2868.1	2896.2	2818.5	2785.6	2597.7	1984.7
67.5°	2552.2	2397.2	2396.2	2660.6	3165.2	3187.1	3157.5	3021.9	2750.1	2391.7	1669.7
70°	2654.0	2487.5	2550.3	2932.0	3493.0	3431.5	3307.0	3118.0	2493.5	1833.1	1090.8
72.5°	2558.4	2397.9	2539.3	3028.5	3533.5	3551.2	3220.5	2793.0	1852.6	937.5	394.8
75°	1944.2	1845.9	2204.8	2686.9	3137.3	3141.3	2688.1	1969.9	912.2	254.6	109.2
77.5°	979.2	948.0	1395.5	1907.4	2288.9	2282.3	1846.9	1055.3	293.5	84.6	55.1
80°	495.7	470.7	593.9	1029.1	1359.3	1369.3	1054.6	472.6	148.1	46.0	38.1
82.5°	304.5	289.0	325.0	465.7	659.7	675.7	400.1	299.2	91.8	27.2	34.8
85°	58.9	62.0	186.7	233.2	263.5	257.3	118.5	246.3	27.7	16.2	25.3
87.5°	0.0	1.0	43.2	76.1	76.3	67.7	26.9	54.6	3.8	4.5	3.1
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°	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5
2.5°	340.5	336.9	307.1	303.8	304.5	299.5	297.8	287.3	284.7	300.9	303.8
5°	423.0	399.1	371.5	361.5	346.0	319.7	315.9	309.2	301.9	304.7	302.6
7.5°	473.5	441.8	412.2	359.6	315.9	277.8	271.6	260.1	248.7	248.9	256.3
10°	481.6	454.9	414.2	350.0	300.2	252.5	211.0	181.0	167.4	155.2	158.8
12.5°	528.6	503.8	428.7	347.2	277.3	202.9	148.5	119.2	106.3	102.0	101.6
15°	566.3	546.7	453.5	338.3	226.5	142.8	106.3	97.8	95.4	99.4	98.2
17.5°	622.3	587.0	450.9	301.9	172.6	108.5	98.0	96.8	99.7	102.0	102.8
20°	646.9	596.1	433.0	244.6	129.2	99.4	95.6	93.2	98.5	105.6	104.2
22.5°	671.7	611.6	412.0	200.3	104.0	95.1	93.0	91.1	95.1	102.0	103.7
25°	682.9	636.4	388.6	156.4	96.6	90.1	88.7	89.4	92.7	98.9	98.2
27.5°	739.4	639.2	344.1	123.5	93.5	86.6	86.6	88.2	88.2	96.6	95.8
30°	774.7	687.6	307.8	104.0	89.9	81.5	84.4	85.1	83.9	93.0	93.7
32.5°	836.7	701.0	272.5	95.4	84.2	80.8	80.4	80.8	81.8	90.6	90.8
35°	932.0	766.8	224.4	92.0	81.3	77.3	73.9	76.5	78.9	85.4	86.6
37.5°	1118.5	834.3	182.9	89.4	79.9	73.9	72.7	72.2	76.5	83.9	86.3
40°	1269.4	953.7	148.8	87.3	77.0	72.0	68.9	69.1	73.0	78.4	82.0
42.5°	1483.0	1040.0	126.1	83.9	73.0	68.0	64.4	66.5	68.2	73.9	76.3
45°	1661.4	1107.0	111.1	81.8	68.9	64.1	61.3	63.7	62.0	64.9	68.2
47.5°	1803.2	1165.4	99.9	76.5	66.3	62.0	58.4	57.7	54.8	55.6	58.7
50°	1881.2	1155.7	90.6	71.3	62.9	59.8	54.8	49.8	46.0	45.8	47.7
52.5°	1908.9	1103.5	83.0	66.8	58.9	55.1	49.4	42.4	38.6	37.4	39.1
55°	1916.5	1028.3	76.1	61.8	55.1	49.1	43.2	35.8	31.7	29.8	31.5
57.5°	1891.7	912.7	69.4	57.0	50.5	43.4	37.0	29.3	25.5	23.1	24.6
60°	1830.4	765.8	63.4	51.0	45.8	38.4	31.2	23.6	19.6	17.4	18.1
62.5°	1694.8	600.4	57.0	45.5	40.8	33.6	26.2	18.6	14.8	12.9	13.1
65°	1488.3	447.5	49.6	40.3	36.2	29.1	21.0	14.3	11.2	9.5	9.3
67.5°	1185.7	303.3	42.2	34.8	32.2	24.6	16.7	11.2	8.8	7.6	7.2
70°	696.9	152.8	35.0	30.0	27.7	20.5	13.1	9.1	8.1	7.2	6.7
72.5°	229.8	66.0	27.4	24.8	22.9	16.5	10.3	8.3	7.9	6.9	6.4
75°	80.1	38.1	20.3	19.1	18.1	12.4	8.6	7.6	7.6	6.7	6.0
77.5°	52.5	29.6	15.0	13.8	13.6	9.1	7.4	7.2	6.7	5.5	4.5
80°	43.6	16.7	10.5	9.8	9.5	5.7	6.0	5.2	4.1	2.4	1.0
82.5°	40.3	10.0	5.5	6.0	5.5	2.1	3.3	2.9	2.1	1.0	0.0
85°	23.6	4.5	3.1	3.1	2.4	0.5	1.7	1.7	1.0	0.2	0.0
87.5°	2.6	2.1	1.7	1.7	1.2	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)