

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: P367097

Luminaire Tested: **MSA-SA1D-760-U-T2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367097  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-760-U-T2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5172 lumens  
Efficiency: N/A  
Efficacy: 77.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G2

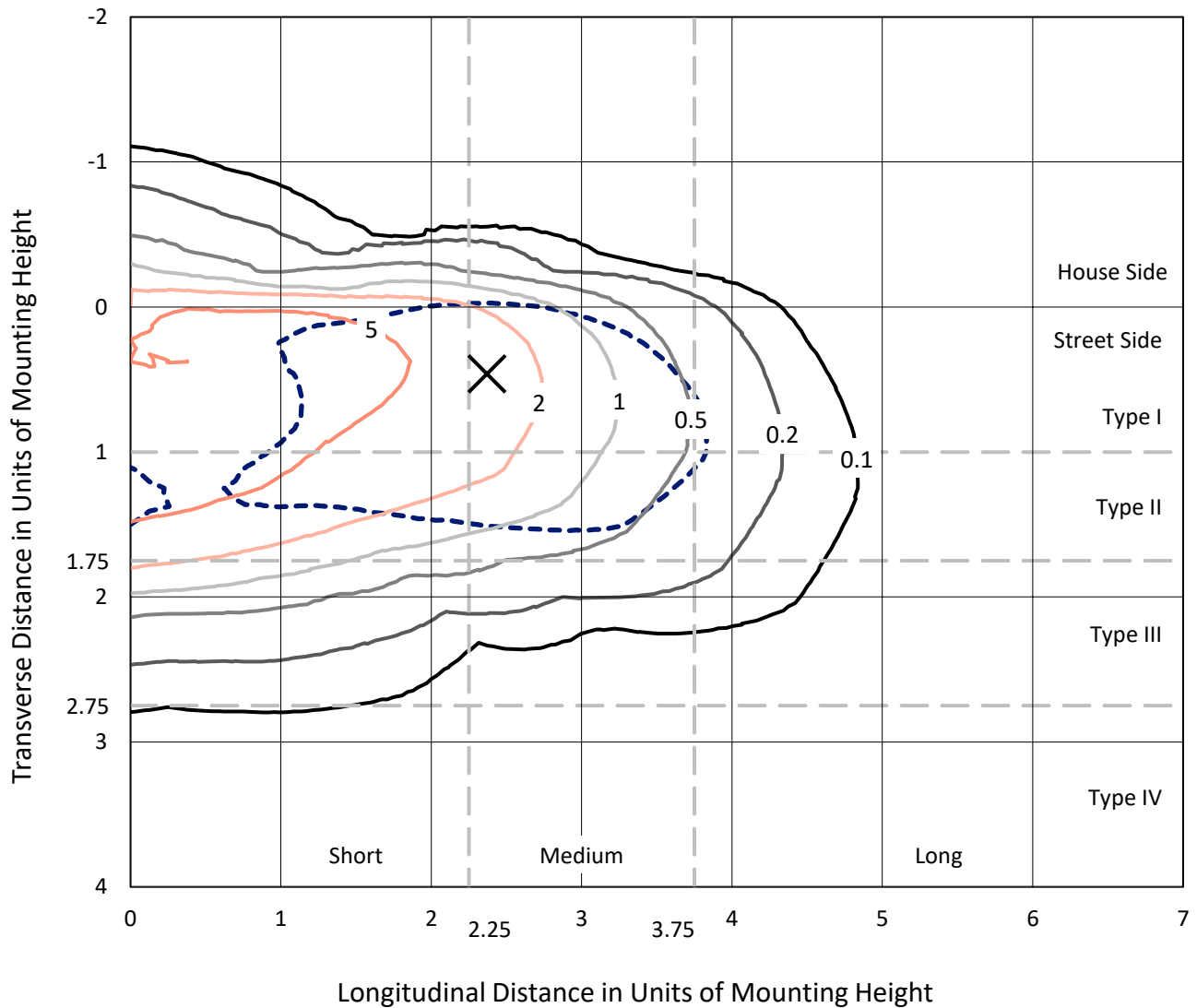
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

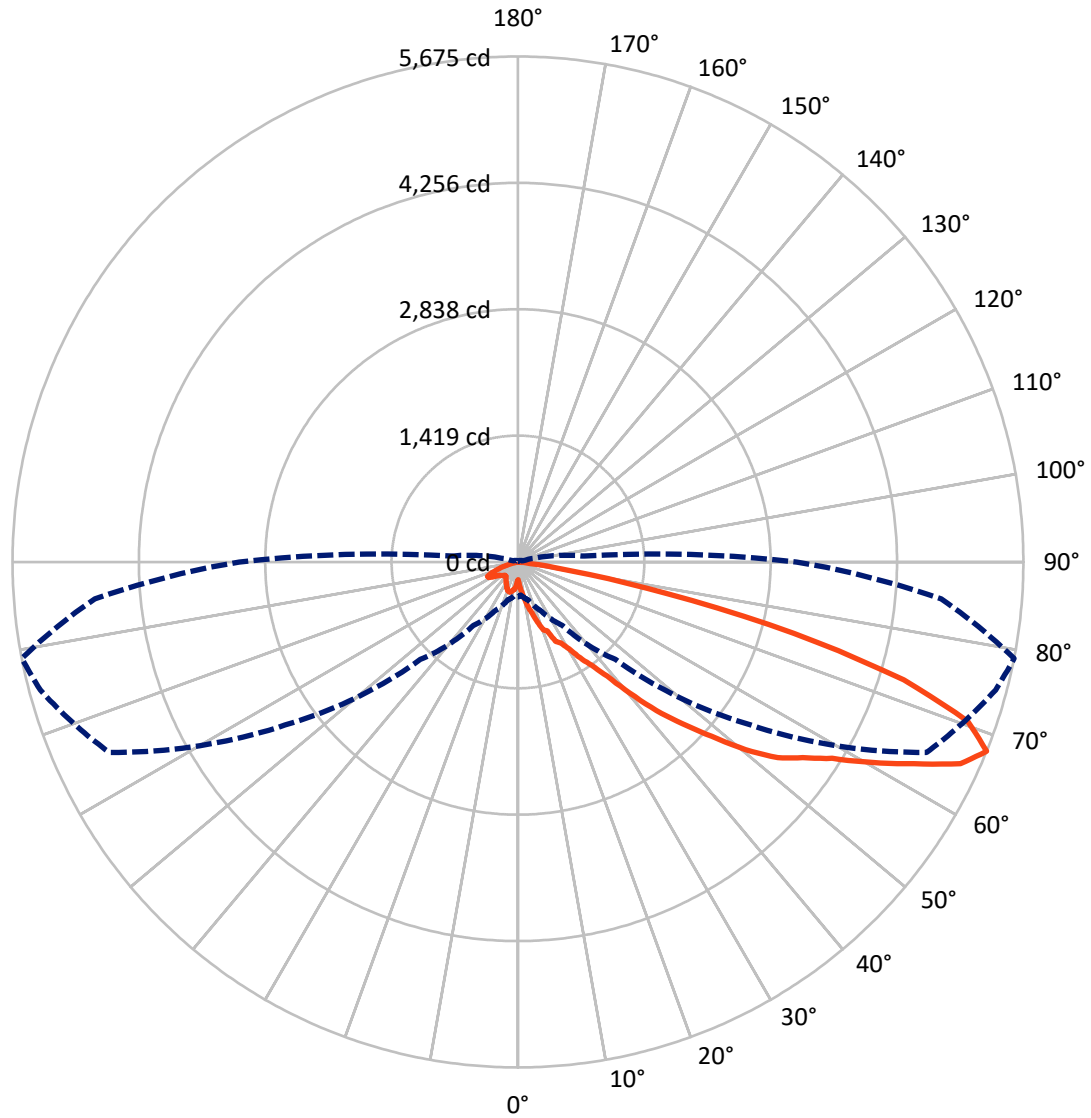
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.7 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical

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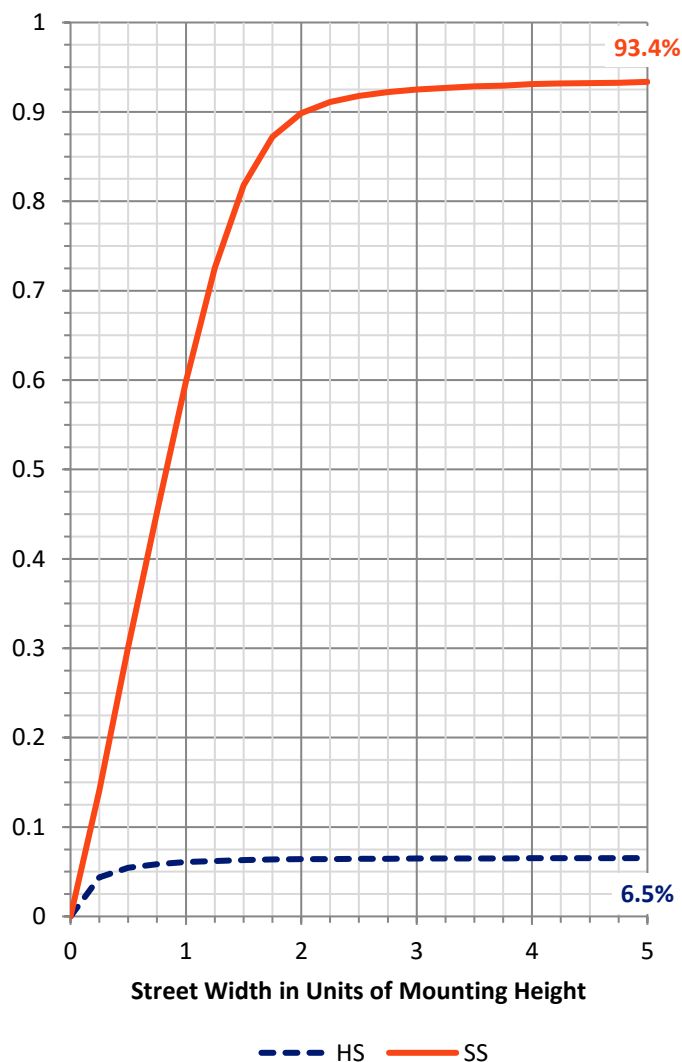
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	339.8	0.0	339.8
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	4832.2	0.0	4832.2
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	5172.0	0.0	5172.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	29.0	0.6
10°-20°	115.6	2.2
20°-30°	223.0	4.3
30°-40°	438.0	8.5
40°-50°	877.3	17.0
50°-60°	1402.3	27.1
60°-70°	1411.0	27.3
70°-80°	636.5	12.3
80°-90°	39.4	0.8
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°	5172.0	100.0
0°-180°	5172.0	100.0

**Coefficient of Utilization**



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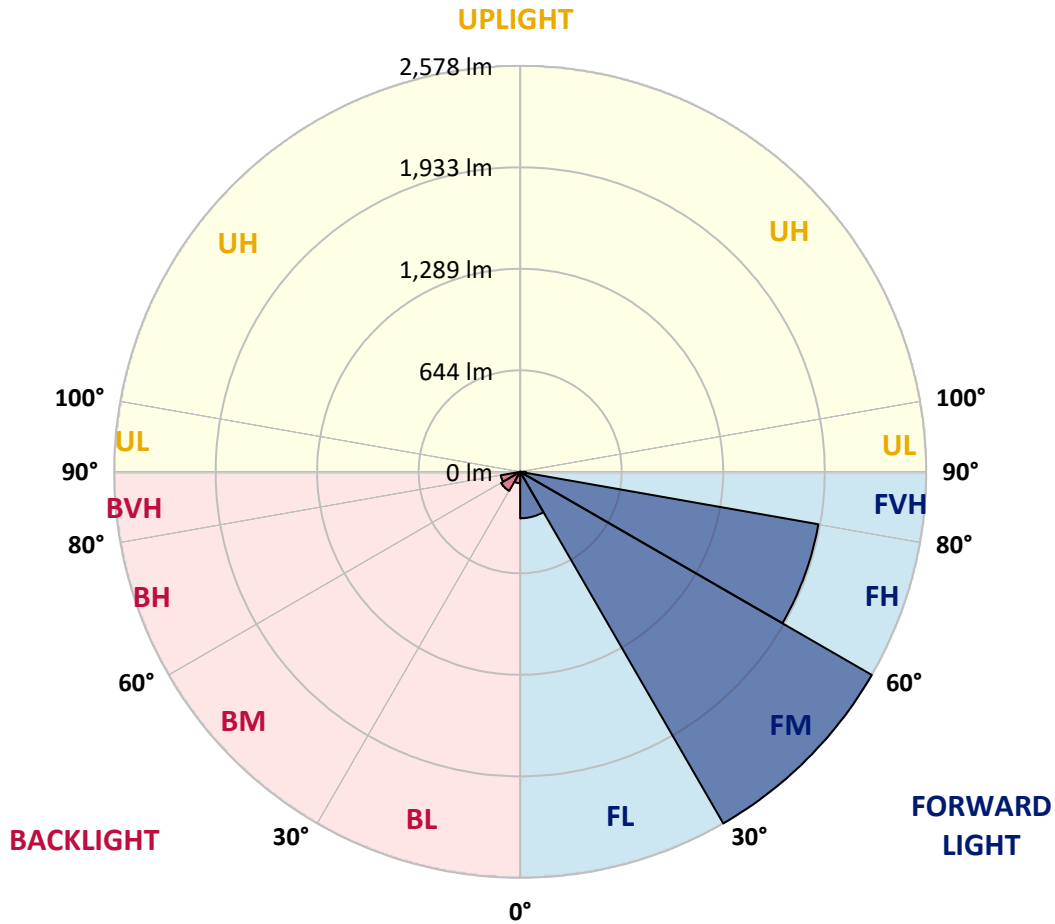
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	295.3	5.7			
FM (30°-60°)	2577.8	49.8			
FH (60°-80°)	1922.2	37.2			G2/5000
FVH (80°-90°)	36.9	0.7			G1/100
BL (0°-30°)	72.2	1.4	B0/110		
BM (30°-60°)	139.8	2.7	B0/220		
BH (60°-80°)	125.3	2.4	B1/500		G1/500
BVH (80°-90°)	2.5	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

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

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	199.3	199.3	199.3	199.3	199.3	199.3	199.3	199.3	199.3	199.3	199.3
2.5°	269.1	259.4	243.8	252.6	252.0	256.6	248.0	238.6	223.5	238.6	239.8
5°	387.5	369.5	358.1	355.8	343.3	331.6	329.0	319.3	311.9	298.5	310.5
7.5°	482.7	474.4	454.2	451.9	421.1	404.0	409.4	405.1	376.9	362.9	374.6
10°	523.2	508.9	511.8	508.9	495.8	500.6	489.5	476.7	454.2	431.1	402.0
12.5°	538.9	536.6	560.2	557.4	588.2	625.2	600.4	579.1	526.9	521.2	481.5
15°	572.5	586.8	583.3	595.3	615.0	678.0	677.4	682.5	627.2	597.6	540.3
17.5°	602.4	613.0	595.9	609.6	663.2	701.4	752.4	732.4	738.7	708.5	619.8
20°	589.6	601.6	584.5	576.2	670.6	743.0	811.1	796.6	834.2	815.4	693.1
22.5°	669.7	647.2	604.1	577.3	647.8	742.1	831.9	892.7	886.1	839.9	761.2
25°	768.7	755.0	703.4	656.0	662.3	737.0	897.5	986.8	1006.1	986.5	826.0
27.5°	902.1	898.9	793.5	772.9	711.9	714.5	907.8	1105.4	1061.2	1030.4	901.5
30°	1076.3	1051.5	926.3	899.5	809.4	765.2	970.5	1207.7	1175.2	1133.3	972.5
32.5°	1263.6	1267.3	1107.6	1019.3	946.8	894.4	945.7	1255.6	1316.3	1282.4	1061.2
35°	1476.3	1492.8	1297.5	1193.7	1052.9	975.6	1052.3	1402.7	1511.6	1422.4	1180.1
37.5°	1803.9	1803.3	1575.2	1368.5	1266.2	1182.3	1230.0	1536.4	1751.7	1626.3	1393.3
40°	2092.1	2029.4	1817.3	1579.8	1420.1	1397.3	1362.8	1719.5	2008.0	1932.5	1582.9
42.5°	2307.4	2263.2	2006.9	1822.1	1624.3	1551.8	1539.6	1987.8	2386.4	2280.6	1853.5
45°	2564.8	2420.0	2231.3	2064.8	1863.2	1842.1	1813.3	2260.1	2826.6	2588.2	2088.7
47.5°	2795.5	2659.2	2480.7	2266.9	2035.4	2209.3	2098.7	2499.3	3146.7	2922.9	2348.2
50°	2989.6	2844.8	2644.9	2482.2	2382.9	2501.0	2316.5	2696.3	3492.6	3311.2	2590.8
52.5°	3088.6	2924.6	2770.1	2669.5	2730.2	2703.7	2611.9	2934.9	3787.4	3651.7	2805.7
55°	3007.3	2847.1	2782.4	2832.3	3016.7	2940.0	2947.4	3304.7	4065.6	3878.6	2992.8
57.5°	2646.9	2500.7	2529.5	2666.0	3019.6	3220.3	3330.1	3663.9	4288.9	4161.4	3281.3
60°	2002.3	1884.6	1991.2	2233.5	2735.6	3164.4	3601.5	4023.2	4607.9	4568.0	3718.1
62.5°	1222.8	1159.0	1310.1	1612.3	2179.9	2890.4	3759.7	4502.1	4949.2	4991.7	4181.4
65°	623.8	595.0	721.0	986.8	1472.9	2374.4	3645.4	4799.8	5301.9	5458.7	4623.0
67.5°	392.9	374.3	441.6	601.9	869.0	1548.7	3191.8	5060.1	5551.1	5675.1	4770.4
70°	272.3	260.6	318.8	413.1	548.3	834.2	2369.8	4817.2	5353.5	5359.2	4413.8
72.5°	172.8	163.7	220.4	305.9	404.6	430.8	1358.5	3780.0	4582.5	4529.8	3574.4
75°	112.0	107.5	140.0	224.1	310.8	265.7	671.4	2550.6	3285.9	3203.2	2374.1
77.5°	80.4	77.5	93.8	149.7	221.2	185.9	301.1	1520.2	1884.0	1703.2	1152.4
80°	48.5	48.2	67.9	93.8	157.4	131.1	139.1	690.2	730.4	595.6	352.1
82.5°	24.2	25.1	37.9	60.4	101.2	85.8	63.6	229.8	196.2	144.5	71.3
85°	5.7	7.1	20.0	41.6	50.7	34.2	30.2	60.2	53.9	40.8	20.8
87.5°	0.0	0.0	6.3	10.0	13.7	5.7	10.3	11.4	14.5	11.4	4.3
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°	199.3	199.3	199.3	199.3	199.3	199.3	199.3	199.3	199.3	199.3	199.3
2.5°	240.1	236.6	215.8	210.4	209.8	203.9	205.3	199.6	199.9	212.7	212.7
5°	305.9	286.0	266.0	248.3	236.4	219.2	213.0	210.4	208.1	213.3	216.4
7.5°	359.2	329.9	293.9	255.5	219.8	195.3	191.9	185.6	183.3	188.5	192.4
10°	382.9	346.4	297.1	240.9	207.6	187.6	171.1	162.2	160.5	160.2	161.7
12.5°	433.1	387.7	300.5	235.5	199.3	177.3	158.5	143.7	130.0	131.4	130.0
15°	473.3	419.7	300.5	222.4	179.3	157.4	124.3	116.9	114.9	118.0	115.5
17.5°	534.0	451.3	285.4	199.0	162.2	122.3	109.8	109.2	113.2	117.7	114.9
20°	570.5	455.6	260.0	172.2	133.1	106.1	101.5	96.9	102.6	106.3	104.9
22.5°	608.4	455.9	234.6	157.9	107.2	96.7	89.2	85.5	86.4	89.8	90.4
25°	624.7	444.8	211.0	139.1	97.2	86.4	78.7	74.7	73.3	75.0	74.4
27.5°	668.9	423.4	185.3	118.6	92.4	76.7	69.6	64.7	60.4	63.3	63.9
30°	675.1	416.5	171.4	105.5	86.1	67.9	61.6	56.5	53.3	57.3	57.3
32.5°	695.1	378.9	164.2	100.1	79.5	62.7	54.2	50.5	49.9	52.5	52.7
35°	725.9	362.4	153.7	95.8	73.6	56.7	48.8	47.0	46.5	48.5	48.5
37.5°	830.2	341.8	142.0	92.1	68.4	53.6	47.3	44.5	44.8	46.5	47.6
40°	899.5	344.4	124.6	87.5	62.4	50.7	44.5	42.5	42.2	43.1	43.9
42.5°	1028.1	346.4	116.9	82.7	57.9	47.3	41.6	40.2	39.1	39.9	40.8
45°	1171.8	357.0	112.9	78.7	55.3	45.3	39.1	38.2	35.6	36.2	37.3
47.5°	1310.4	395.4	108.1	73.0	53.0	44.2	36.5	34.5	32.8	32.5	33.6
50°	1467.7	432.8	102.6	66.7	50.7	42.5	33.9	30.8	29.7	29.7	30.5
52.5°	1608.6	468.4	97.5	62.4	49.0	39.3	31.6	28.5	27.7	27.7	28.8
55°	1756.8	505.8	92.9	58.4	46.8	36.2	29.7	26.8	26.5	25.9	26.8
57.5°	2018.6	587.3	87.2	55.0	43.6	33.6	27.9	25.1	24.5	23.7	24.5
60°	2399.8	712.5	79.8	51.6	39.9	31.9	26.5	23.1	22.2	20.8	21.1
62.5°	2772.4	813.7	71.3	47.3	36.5	30.2	24.2	20.8	19.4	17.7	18.0
65°	3091.7	853.6	62.2	42.2	33.1	26.2	21.1	18.2	16.3	14.0	13.7
67.5°	3129.3	753.8	53.3	37.3	29.7	22.2	18.0	16.3	13.1	11.1	10.5
70°	2816.3	561.7	44.5	33.1	25.7	18.8	15.4	14.3	12.3	10.5	9.7
72.5°	2242.7	414.5	37.3	29.4	22.5	16.0	13.1	13.4	12.3	10.3	9.1
75°	1483.1	237.2	30.5	24.5	18.8	12.8	12.0	12.0	11.7	9.7	8.6
77.5°	713.6	102.4	23.4	19.4	15.1	9.7	10.8	10.8	11.1	8.8	7.1
80°	202.4	30.8	14.5	13.1	11.1	6.6	8.6	8.3	7.4	5.1	3.1
82.5°	36.2	12.0	6.6	6.8	6.3	2.6	4.8	4.6	3.7	2.0	0.3
85°	10.0	4.6	3.7	4.0	3.1	0.9	2.0	2.6	2.0	1.1	0.0
87.5°	2.6	2.0	2.6	2.9	2.3	0.3	0.9	0.3	0.9	0.3	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)