

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: P366659

Luminaire Tested: **MSA-SA1A-740-U-T3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366659  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1A-740-U-T3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2984 lumens  
Efficiency: N/A  
Efficacy: 87.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B0 - U0 - G1

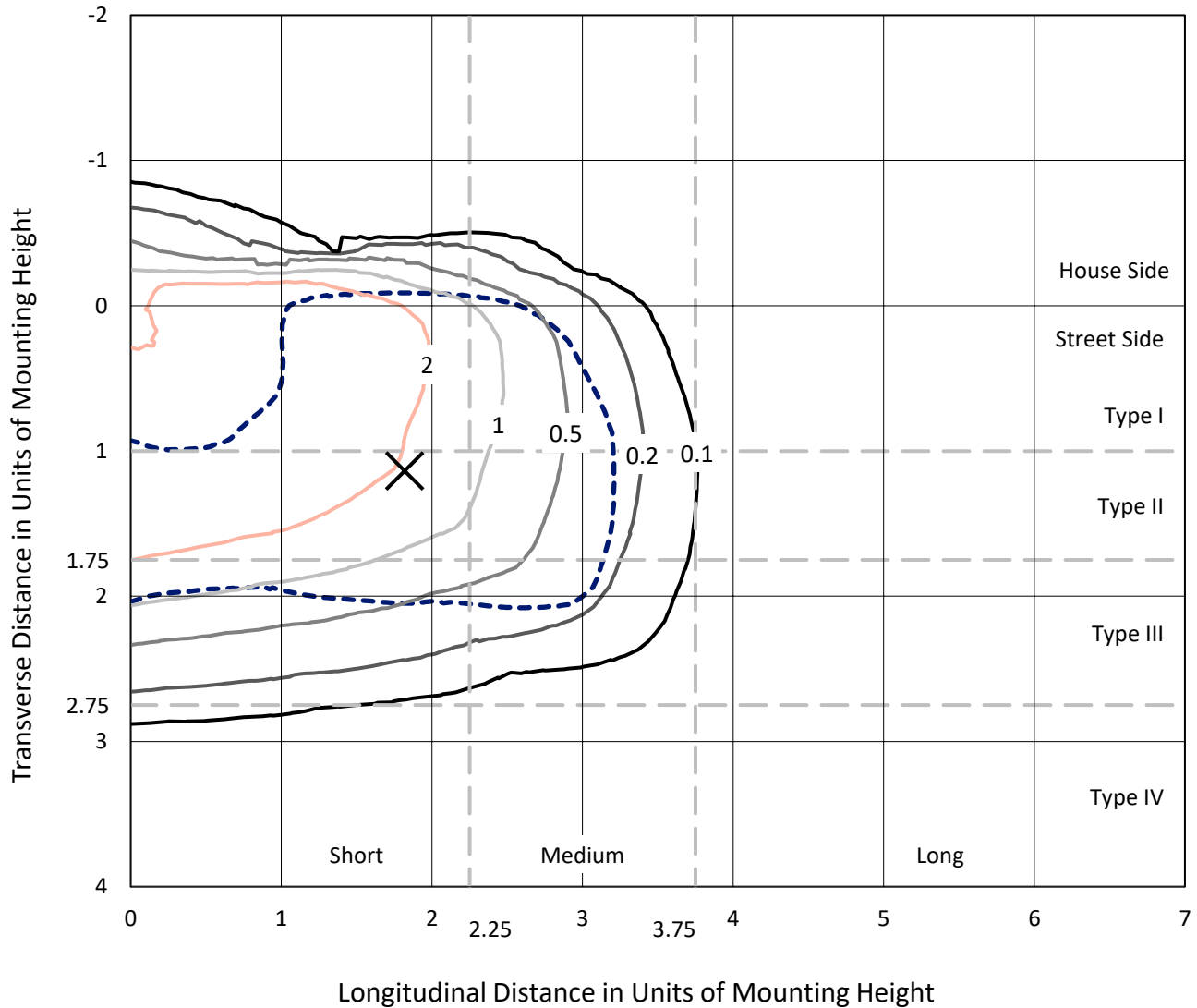
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

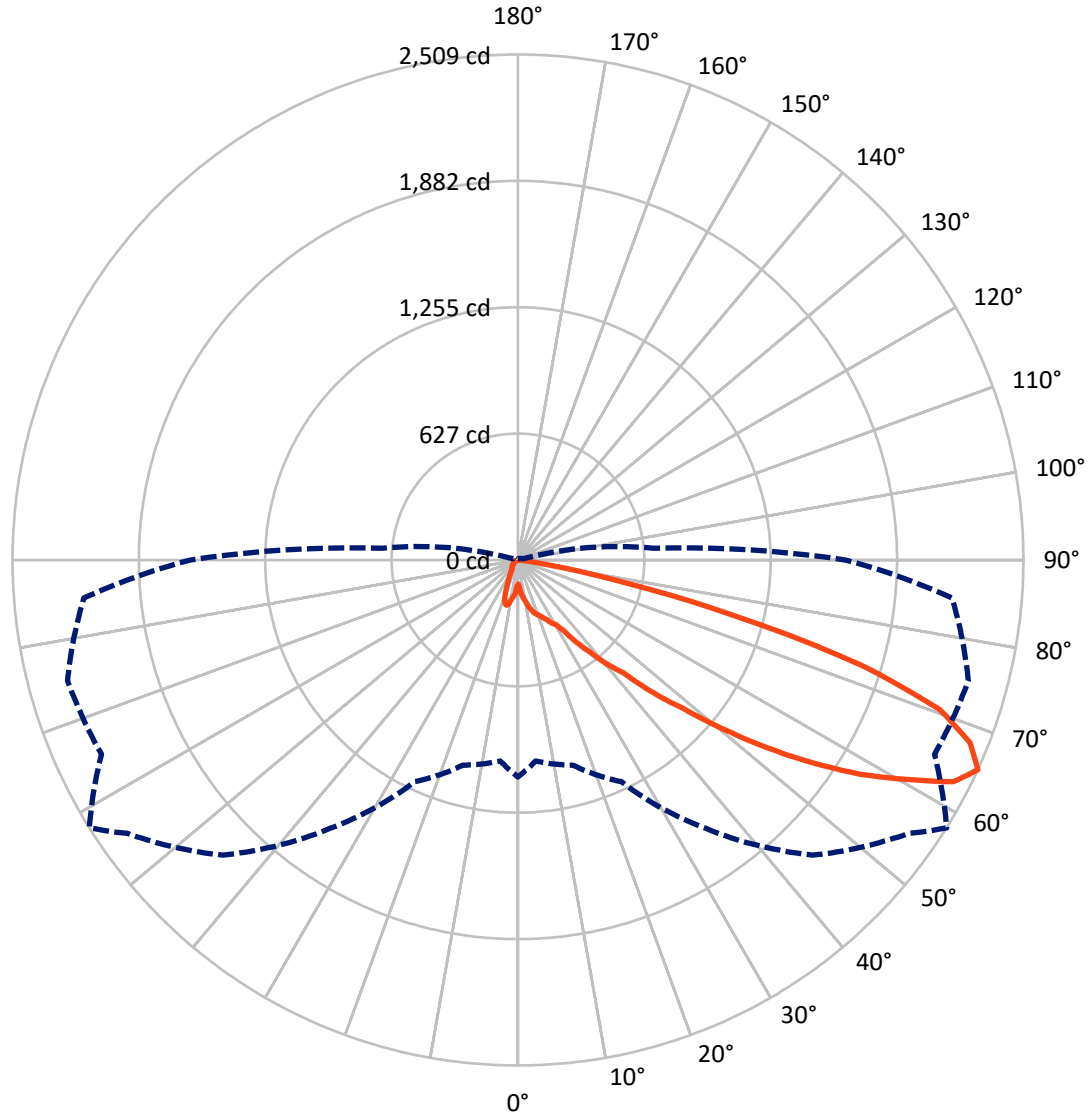
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.8 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral      - - - Horizontal Cone Through 65-Deg Vertical

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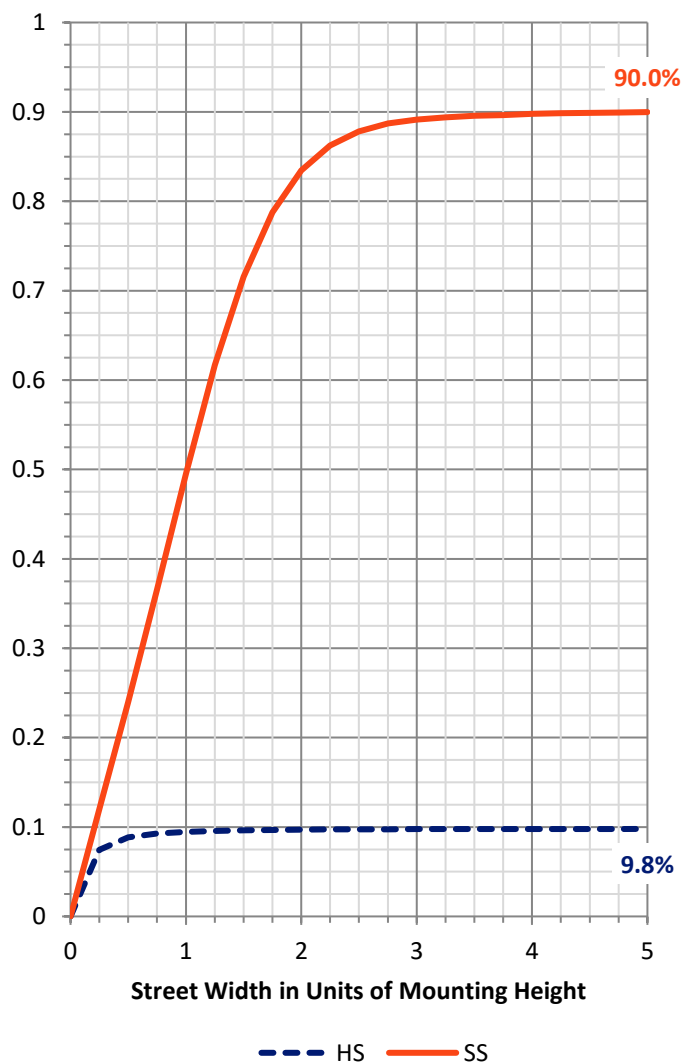
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	294.4	0.0	294.4
	% Fixture	9.9	0.0	9.9
<b>Street Side</b>	Lumens	2689.6	0.0	2689.6
	% Fixture	90.1	0.0	90.1
<b>Total</b>	Lumens	2984.0	0.0	2984.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	16.8	0.6
10°-20°	61.3	2.1
20°-30°	118.6	4.0
30°-40°	236.6	7.9
40°-50°	483.6	16.2
50°-60°	857.8	28.7
60°-70°	904.3	30.3
70°-80°	293.2	9.8
80°-90°	12.0	0.4
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°	2984.0	100.0
0°-180°	2984.0	100.0

**Coefficient of Utilization**



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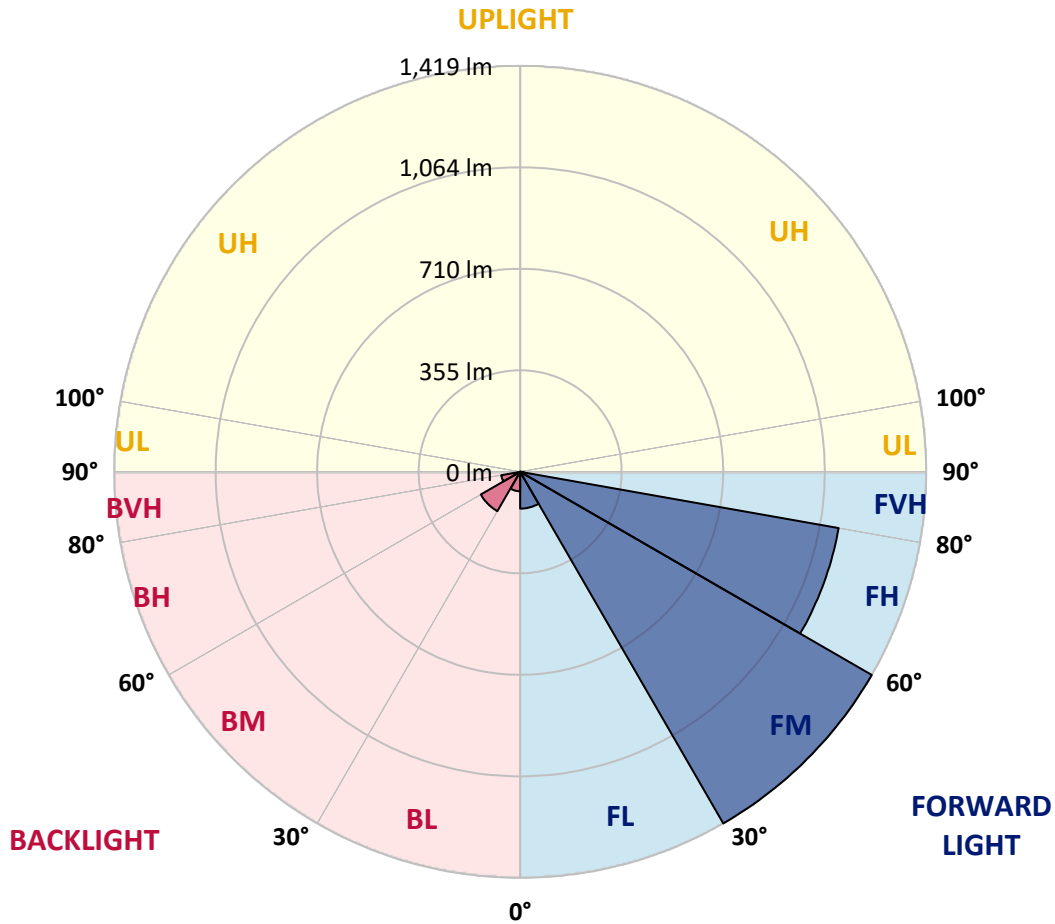
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	128.7	4.3			
FM (30°-60°)	1419.0	47.6			
FH (60°-80°)	1130.3	37.9			G1/1800
FVH (80°-90°)	11.5	0.4			G1/100
BL (0°-30°)	67.9	2.3	B0/110		
BM (30°-60°)	158.9	5.3	B0/220		
BH (60°-80°)	67.2	2.3	B0/110		G0/110
BVH (80°-90°)	0.5	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	119.5	119.5	119.5	119.5	119.5	119.5	119.5	119.5	119.5	119.5	119.5
2.5°	145.8	141.5	134.6	135.8	137.1	139.8	137.6	135.6	133.4	130.5	141.5
5°	176.1	168.8	168.2	166.7	165.5	165.3	168.0	167.2	168.3	173.7	179.3
7.5°	187.2	184.1	178.4	180.8	177.1	174.2	186.2	190.0	197.4	199.9	214.4
10°	186.0	181.6	184.0	185.1	187.7	198.1	205.6	209.8	216.2	230.0	227.1
12.5°	191.4	195.2	197.7	197.9	210.9	230.0	235.4	238.9	250.3	255.7	269.8
15°	209.3	215.7	211.7	213.4	217.6	240.9	253.5	261.3	277.4	294.9	298.4
17.5°	235.0	239.1	230.7	224.6	236.2	249.0	271.8	279.9	290.2	331.0	338.5
20°	267.5	274.4	256.2	232.2	247.5	262.6	287.5	291.3	302.2	355.5	367.4
22.5°	343.2	333.0	305.3	267.8	263.3	270.0	293.7	308.8	327.3	369.3	397.0
25°	418.0	414.5	373.7	331.8	301.6	286.5	317.9	326.3	356.5	402.0	417.3
27.5°	501.2	508.2	440.0	414.6	355.3	305.9	333.0	354.0	389.8	414.0	450.8
30°	610.9	599.6	519.7	494.3	426.6	359.5	372.1	373.5	426.1	453.3	488.2
32.5°	696.9	704.1	603.7	564.7	510.6	442.0	401.5	419.0	456.6	517.3	550.4
35°	790.0	789.3	691.4	638.9	568.2	509.4	488.7	501.5	548.7	617.4	626.2
37.5°	929.1	917.2	801.6	724.8	664.6	614.4	598.6	581.6	630.4	695.9	728.7
40°	1060.3	1019.1	912.3	821.2	744.3	723.8	666.7	677.1	691.5	778.0	868.6
42.5°	1192.9	1167.3	1024.5	948.2	853.7	804.9	767.6	762.8	831.5	934.0	1027.5
45°	1367.8	1289.6	1175.4	1108.4	998.8	949.9	919.8	937.8	999.7	1149.3	1211.7
47.5°	1514.6	1442.7	1344.6	1242.8	1127.8	1182.8	1126.3	1097.9	1182.8	1337.5	1420.3
50°	1640.8	1560.6	1461.3	1385.9	1367.3	1420.0	1305.8	1316.2	1371.3	1553.1	1599.8
52.5°	1732.5	1648.2	1561.5	1525.0	1601.5	1628.0	1570.7	1547.7	1597.8	1736.9	1759.6
55°	1801.6	1715.2	1647.5	1697.7	1845.6	1836.8	1857.0	1778.4	1826.3	1928.6	1917.8
57.5°	1805.8	1703.4	1663.8	1744.6	1947.6	2082.8	2141.8	2008.0	2035.3	2078.4	2054.2
60°	1673.7	1571.9	1568.7	1683.4	1977.1	2146.5	2275.5	2210.3	2173.9	2206.0	2160.1
62.5°	1410.6	1339.4	1372.6	1499.5	1867.1	2111.4	2346.7	2425.2	2283.2	2290.5	2225.3
65°	1077.1	1002.3	1054.4	1214.2	1626.5	2072.1	2366.9	2509.2	2281.2	2314.5	2162.8
67.5°	713.4	670.0	729.0	905.1	1293.2	1829.1	2356.5	2421.0	2208.8	2220.6	1930.8
70°	368.3	357.7	405.4	544.3	869.4	1405.2	2254.2	2218.9	2061.8	1912.9	1489.2
72.5°	117.9	118.4	164.3	248.7	468.7	855.5	1732.7	1781.1	1649.8	1399.3	909.3
75°	52.3	51.4	68.7	104.3	195.4	383.6	1076.4	1128.7	1027.2	769.8	382.2
77.5°	37.6	36.5	44.0	61.0	96.8	130.0	504.7	544.7	465.7	266.8	87.5
80°	26.5	26.4	31.9	42.8	60.5	57.8	159.4	178.8	143.1	64.7	25.7
82.5°	15.0	15.5	22.2	30.2	36.8	28.9	44.9	49.4	48.2	34.4	11.3
85°	7.2	8.1	14.4	21.8	19.3	11.3	16.0	17.3	20.2	20.0	5.7
87.5°	0.0	0.0	5.9	9.9	5.2	1.7	4.9	5.5	5.4	6.4	1.3
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°	119.5	119.5	119.5	119.5	119.5	119.5	119.5	119.5	119.5	119.5	119.5
2.5°	143.6	142.6	129.9	130.9	133.7	132.6	133.6	131.2	128.5	139.4	139.3
5°	181.6	174.1	170.0	166.3	167.0	159.4	163.8	165.8	165.5	171.7	173.4
7.5°	214.9	204.8	196.7	189.0	177.2	166.7	173.2	177.4	180.3	191.0	195.2
10°	230.5	222.3	219.1	204.0	195.6	189.0	181.1	175.4	177.8	174.9	177.8
12.5°	264.8	259.2	247.0	231.7	221.6	208.2	178.8	154.2	139.1	139.3	138.3
15°	296.0	295.7	277.4	252.0	222.8	184.5	138.6	107.7	93.4	89.4	88.0
17.5°	336.9	331.8	298.4	260.9	208.3	142.8	94.4	73.8	72.4	74.8	73.8
20°	362.9	355.5	308.8	248.0	171.7	96.6	71.2	65.4	69.4	72.7	71.9
22.5°	388.9	377.9	316.7	232.2	122.1	70.7	64.3	63.3	65.9	70.1	70.7
25°	403.2	401.0	332.2	202.6	83.7	62.0	62.0	61.7	62.5	65.5	65.0
27.5°	444.7	415.1	320.6	158.1	64.7	57.0	57.8	57.5	54.4	57.5	57.6
30°	470.6	457.0	321.4	112.6	57.0	50.4	52.6	49.9	45.4	47.9	47.4
32.5°	522.7	488.7	318.9	75.9	51.9	48.1	44.7	40.8	37.5	38.5	37.6
35°	583.3	557.5	284.8	61.0	48.4	42.5	37.1	33.3	29.7	30.6	30.4
37.5°	704.0	621.8	256.5	54.9	46.0	39.0	32.8	27.4	25.5	26.0	26.5
40°	815.7	729.2	204.0	52.3	42.0	34.8	27.0	23.2	22.0	22.3	22.8
42.5°	982.7	814.5	154.1	49.6	38.0	29.4	22.5	20.0	18.8	19.5	19.8
45°	1144.3	887.1	115.1	47.2	34.6	25.4	19.0	17.3	16.0	16.5	17.1
47.5°	1305.8	967.7	85.9	43.5	30.9	21.8	16.3	15.1	14.3	14.4	15.3
50°	1450.3	1005.4	67.5	39.0	27.9	19.0	14.8	13.6	13.3	13.4	14.1
52.5°	1556.4	1005.7	57.0	34.9	25.0	16.8	13.9	12.6	12.4	12.8	13.4
55°	1652.4	978.8	49.4	31.4	22.5	15.3	13.3	12.1	12.1	12.4	13.1
57.5°	1716.0	929.4	42.8	27.7	20.3	14.4	12.8	11.6	11.4	11.3	11.8
60°	1747.1	862.1	36.3	24.4	18.3	13.9	12.4	10.2	10.1	9.7	10.1
62.5°	1727.5	777.7	30.4	21.0	16.3	13.3	10.9	8.9	8.6	7.9	8.4
65°	1627.0	675.2	25.7	18.0	14.1	11.3	9.2	7.6	6.7	5.9	5.7
67.5°	1421.5	548.5	21.5	15.5	12.1	9.2	7.6	6.7	5.2	4.5	4.4
70°	1065.3	374.5	17.8	13.3	10.1	7.9	6.4	6.0	4.9	4.4	4.0
72.5°	625.0	202.1	15.0	11.6	8.6	6.6	5.2	5.5	4.9	4.0	3.7
75°	249.7	67.2	11.9	9.2	6.9	4.7	4.4	4.5	4.4	3.7	3.0
77.5°	57.0	21.2	9.2	7.2	5.4	3.0	3.5	3.9	3.9	3.0	2.2
80°	17.8	8.4	5.4	4.5	3.9	1.7	2.5	2.7	1.8	0.8	0.0
82.5°	5.7	2.4	1.8	1.8	1.7	0.3	0.5	0.3	0.0	0.0	0.0
85°	2.2	1.5	1.2	1.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.8	0.7	0.5	0.7	0.3	0.0	0.0	0.0	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)