

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: P368109

Luminaire Tested: **MSA-SA3D-740-U-T2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368109
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-SA3D-740-U-T2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 15012 lumens
Efficiency: N/A
Efficacy: 78.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G3

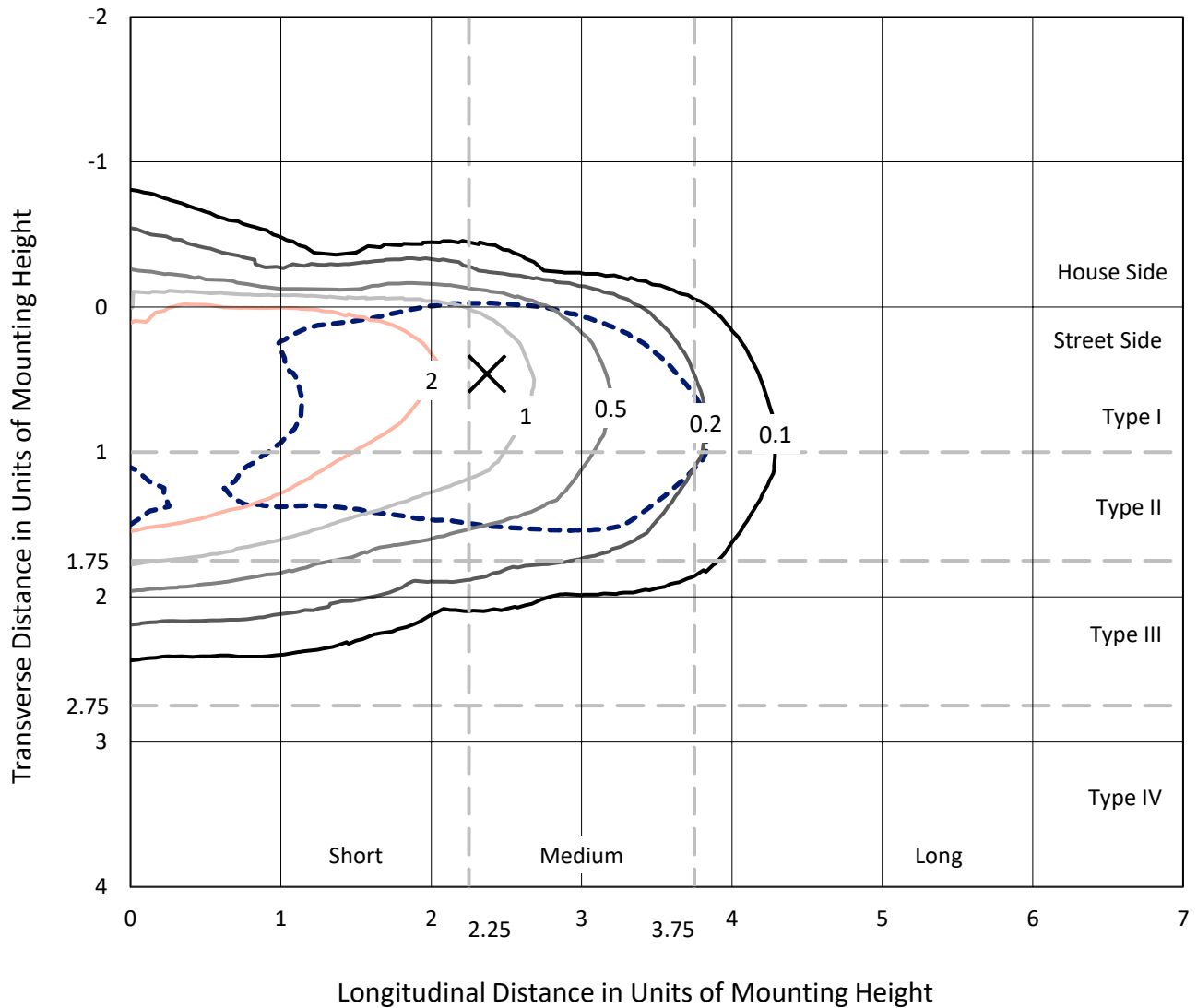
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

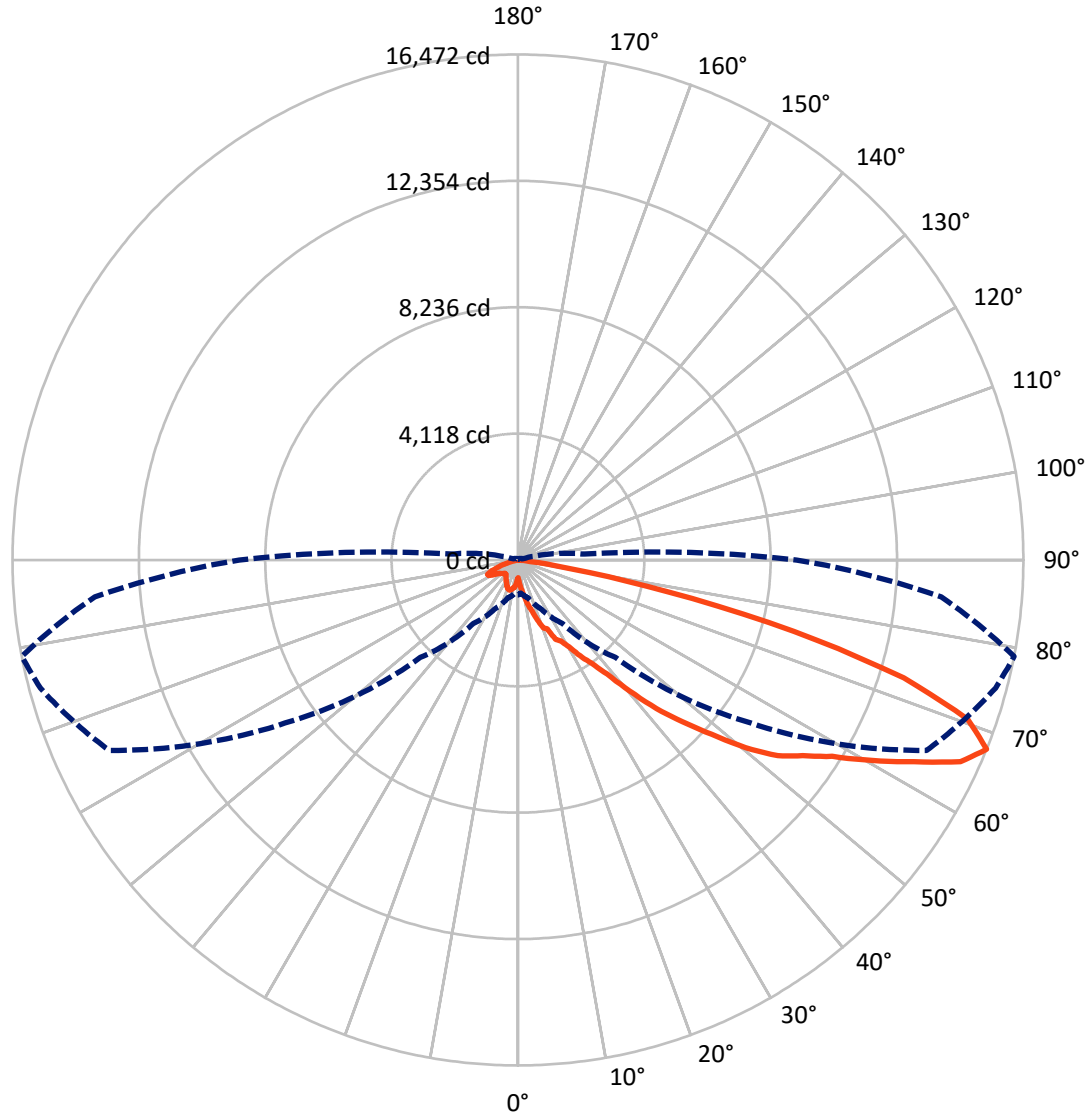
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 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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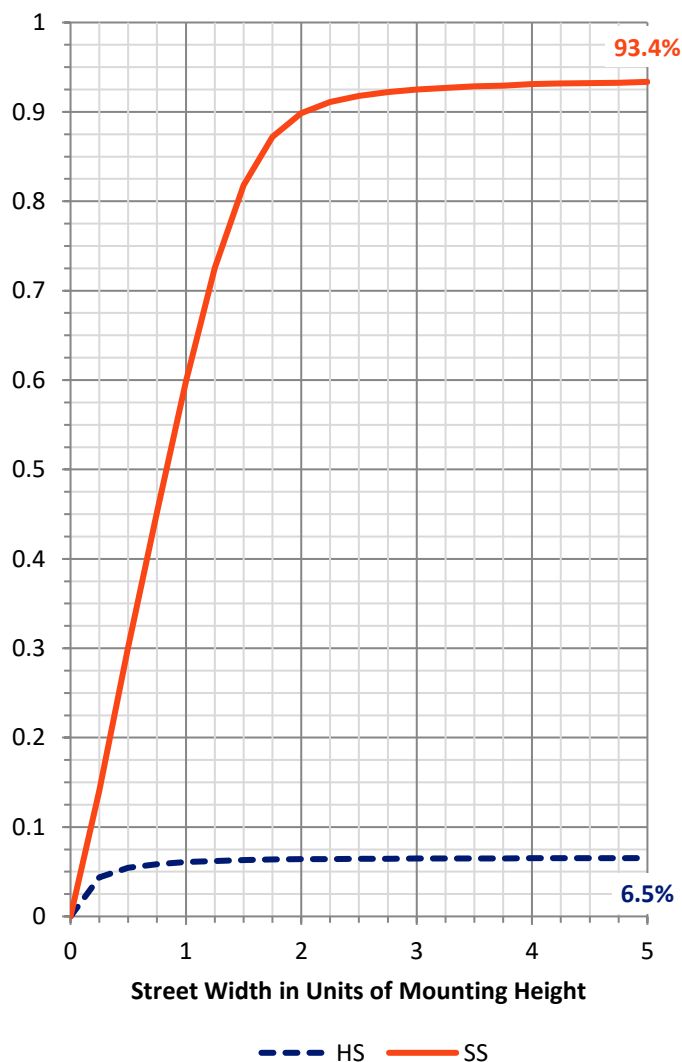
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	986.4	0.0	986.4
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	14025.6	0.0	14025.6
	% Fixture	93.4	0.0	93.4
Total	Lumens	15012.0	0.0	15012.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.1	0.6
10°-20°	335.4	2.2
20°-30°	647.1	4.3
30°-40°	1271.2	8.5
40°-50°	2546.5	17.0
50°-60°	4070.3	27.1
60°-70°	4095.4	27.3
70°-80°	1847.6	12.3
80°-90°	114.3	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°	15012.0	100.0
0°-180°	15012.0	100.0

Coefficient of Utilization



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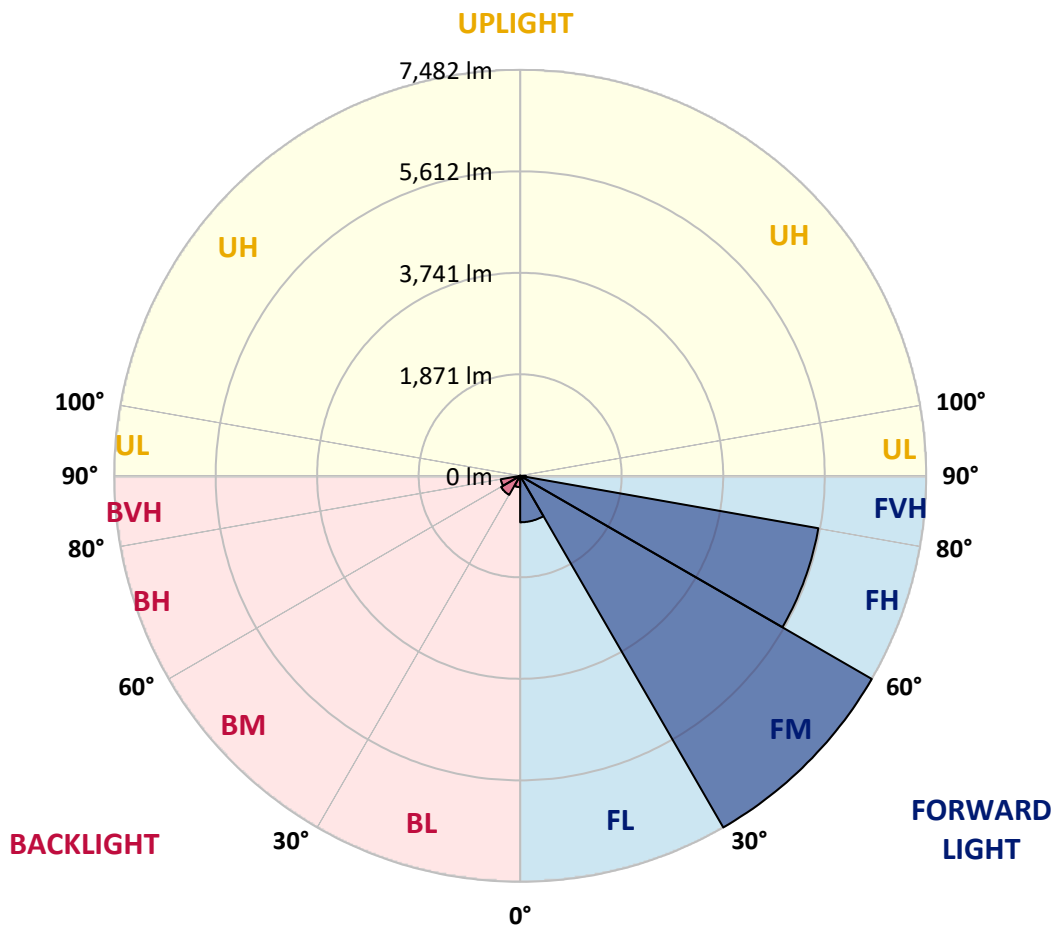
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	857.0	5.7			
FM (30°-60°)	7482.2	49.8			
FH (60°-80°)	5579.4	37.2			G3/7500
FVH (80°-90°)	107.0	0.7			G2/225
BL (0°-30°)	209.7	1.4	B1/500		
BM (30°-60°)	405.8	2.7	B1/1000		
BH (60°-80°)	363.6	2.4	B1/500		G1/500
BVH (80°-90°)	7.3	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-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	578.5	578.5	578.5	578.5	578.5	578.5	578.5	578.5	578.5	578.5	578.5
2.5°	781.2	753.1	707.5	733.2	731.5	744.8	720.0	692.7	648.8	692.7	696.0
5°	1124.6	1072.5	1039.4	1032.8	996.4	962.4	955.0	926.8	905.3	866.4	901.2
7.5°	1401.0	1377.0	1318.3	1311.7	1222.3	1172.6	1188.3	1175.9	1094.0	1053.5	1087.4
10°	1518.5	1477.2	1485.4	1477.2	1439.1	1453.2	1420.9	1383.6	1318.3	1251.2	1166.8
12.5°	1564.1	1557.4	1626.1	1617.8	1707.2	1814.8	1742.8	1680.7	1529.3	1512.7	1397.7
15°	1661.7	1703.1	1693.1	1727.9	1785.0	1967.9	1966.2	1981.1	1820.6	1734.5	1568.2
17.5°	1748.6	1779.2	1729.6	1769.3	1924.9	2035.8	2183.9	2126.0	2144.2	2056.4	1799.1
20°	1711.4	1746.1	1696.5	1672.5	1946.4	2156.6	2354.4	2312.2	2421.4	2366.8	2011.8
22.5°	1943.9	1878.5	1753.6	1675.8	1880.2	2154.1	2414.8	2591.0	2572.0	2437.9	2209.5
25°	2231.1	2191.3	2041.5	1904.2	1922.4	2139.2	2605.1	2864.1	2920.4	2863.3	2397.4
27.5°	2618.3	2609.2	2303.0	2243.5	2066.4	2073.8	2634.9	3208.4	3080.1	2990.7	2616.7
30°	3124.0	3052.0	2688.7	2610.9	2349.4	2221.1	2817.0	3505.5	3411.1	3289.5	2822.7
32.5°	3667.7	3678.4	3215.0	2958.5	2748.3	2596.0	2745.0	3644.5	3820.8	3722.3	3080.1
35°	4285.0	4333.0	3766.1	3464.9	3056.1	2831.8	3054.5	4071.5	4387.6	4128.6	3425.2
37.5°	5235.9	5234.2	4572.2	3972.2	3675.1	3431.8	3570.0	4459.6	5084.4	4720.3	4044.2
40°	6072.5	5890.4	5274.7	4585.4	4122.0	4055.8	3955.6	4990.9	5828.4	5609.1	4594.5
42.5°	6697.3	6569.0	5825.1	5288.8	4714.5	4504.3	4468.7	5769.6	6926.5	6619.5	5379.8
45°	7444.6	7024.2	6476.3	5993.1	5408.0	5346.7	5263.2	6559.9	8204.2	7512.4	6062.6
47.5°	8114.0	7718.5	7200.4	6579.8	5907.8	6412.6	6091.5	7254.2	9133.6	8484.0	6815.6
50°	8677.6	8257.2	7677.1	7204.6	6916.6	7259.2	6723.8	7826.1	10137.4	9611.1	7519.9
52.5°	8964.8	8488.9	8040.4	7748.3	7924.5	7847.6	7581.1	8518.7	10993.1	10599.2	8143.8
55°	8728.9	8263.8	8076.0	8220.8	8756.2	8533.6	8555.1	9592.0	11800.7	11257.9	8686.7
57.5°	7682.9	7258.4	7341.9	7738.3	8764.5	9347.1	9665.7	10634.7	12448.7	12078.8	9524.2
60°	5811.8	5470.0	5779.5	6483.0	7940.3	9184.9	10453.5	11677.4	13374.7	13258.9	10792.0
62.5°	3549.3	3364.0	3802.6	4679.7	6327.4	8389.6	10912.8	13067.7	14365.3	14488.6	12136.7
65°	1810.7	1727.1	2092.9	2864.1	4275.1	6891.8	10580.9	13931.7	15389.0	15844.1	13418.6
67.5°	1140.4	1086.6	1281.9	1746.9	2522.3	4495.2	9264.3	14687.2	16112.2	16472.2	13846.4
70°	790.3	756.4	925.2	1199.1	1591.4	2421.4	6878.5	13982.1	15538.7	15555.3	12811.2
72.5°	501.5	475.0	639.7	888.0	1174.3	1250.4	3943.2	10971.5	13301.1	13148.0	10374.9
75°	325.2	312.0	406.3	650.4	902.0	771.3	1948.9	7403.2	9537.4	9297.4	6890.9
77.5°	233.4	225.1	272.3	434.5	642.2	539.6	873.9	4412.5	5468.4	4943.7	3344.9
80°	140.7	139.9	197.0	272.3	456.8	380.7	403.8	2003.5	2120.2	1728.7	1022.0
82.5°	70.3	72.8	110.1	175.4	293.8	249.1	184.5	667.0	569.3	419.6	206.9
85°	16.6	20.7	57.9	120.8	147.3	99.3	87.7	174.6	156.4	118.3	60.4
87.5°	0.0	0.0	18.2	29.0	39.7	16.6	29.8	33.1	42.2	33.1	12.4
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°	578.5	578.5	578.5	578.5	578.5	578.5	578.5	578.5	578.5	578.5	578.5
2.5°	696.8	686.9	626.4	610.7	609.1	591.7	595.8	579.3	580.1	617.3	617.3
5°	888.0	830.0	772.1	720.8	686.0	636.4	618.2	610.7	604.1	619.0	628.1
7.5°	1042.7	957.5	853.2	741.5	638.0	566.9	556.9	538.7	532.1	547.0	558.6
10°	1111.4	1005.5	862.3	699.3	602.5	544.5	496.5	470.9	465.9	465.1	469.2
12.5°	1257.0	1125.5	872.2	683.5	578.5	514.7	460.1	417.1	377.4	381.5	377.4
15°	1373.7	1218.1	872.2	645.5	520.5	456.8	360.8	339.3	333.5	342.6	335.2
17.5°	1550.0	1310.0	828.4	577.6	470.9	355.0	318.6	316.9	328.5	341.8	333.5
20°	1655.9	1322.4	754.7	499.8	386.5	307.8	294.6	281.4	297.9	308.7	304.5
22.5°	1766.0	1323.2	681.1	458.5	311.2	280.5	259.0	248.3	250.7	260.7	262.3
25°	1813.1	1291.0	612.4	403.8	282.2	250.7	228.4	216.8	212.7	217.6	216.0
27.5°	1941.4	1228.9	537.9	344.3	268.1	222.6	201.9	187.9	175.4	183.7	185.4
30°	1959.6	1209.0	497.4	306.2	249.9	197.0	178.7	163.9	154.8	166.3	166.3
32.5°	2017.5	1099.8	476.7	290.5	230.9	182.1	157.2	146.5	144.8	152.3	153.1
35°	2106.9	1051.8	446.0	278.1	213.5	164.7	141.5	136.5	134.9	140.7	140.7
37.5°	2409.8	992.2	412.1	267.3	198.6	155.6	137.4	129.1	129.9	134.9	138.2
40°	2610.9	999.7	361.6	254.1	181.2	147.3	129.1	123.3	122.5	125.0	127.4
42.5°	2984.1	1005.5	339.3	240.0	168.0	137.4	120.8	116.7	113.4	115.9	118.3
45°	3401.2	1036.1	327.7	228.4	160.5	131.6	113.4	110.9	103.4	105.1	108.4
47.5°	3803.4	1147.8	313.6	211.9	153.9	128.3	105.9	100.1	95.2	94.3	97.6
50°	4260.2	1256.2	297.9	193.6	147.3	123.3	98.5	89.4	86.1	86.1	88.5
52.5°	4669.0	1359.7	283.0	181.2	142.3	114.2	91.9	82.8	80.3	80.3	83.6
55°	5099.3	1468.1	269.8	169.6	135.7	105.1	86.1	77.8	77.0	75.3	77.8
57.5°	5859.0	1704.7	253.2	159.7	126.6	97.6	81.1	72.8	71.2	68.7	71.2
60°	6965.4	2068.0	231.7	149.8	115.9	92.7	77.0	67.0	64.5	60.4	61.2
62.5°	8047.0	2361.8	206.9	137.4	105.9	87.7	70.3	60.4	56.3	51.3	52.1
65°	8973.9	2477.7	180.4	122.5	96.0	76.1	61.2	53.0	47.2	40.5	39.7
67.5°	9083.1	2188.0	154.8	108.4	86.1	64.5	52.1	47.2	38.1	32.3	30.6
70°	8174.5	1630.3	129.1	96.0	74.5	54.6	44.7	41.4	35.6	30.6	28.1
72.5°	6509.4	1203.2	108.4	85.2	65.4	46.3	38.1	38.9	35.6	29.8	26.5
75°	4304.9	688.5	88.5	71.2	54.6	37.2	34.8	34.8	33.9	28.1	24.8
77.5°	2071.3	297.1	67.9	56.3	43.9	28.1	31.4	31.4	32.3	25.7	20.7
80°	587.6	89.4	42.2	38.1	32.3	19.0	24.8	24.0	21.5	14.9	9.1
82.5°	105.1	34.8	19.0	19.9	18.2	7.4	14.1	13.2	10.8	5.8	0.8
85°	29.0	13.2	10.8	11.6	9.1	2.5	5.8	7.4	5.8	3.3	0.0
87.5°	7.4	5.8	7.4	8.3	6.6	0.8	2.5	0.8	2.5	0.8	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)