

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: P367581

Luminaire Tested: **MSA-SA2D-740-U-T2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367581
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-SA2D-740-U-T2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 10172 lumens
Efficiency: N/A
Efficacy: 78.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G2

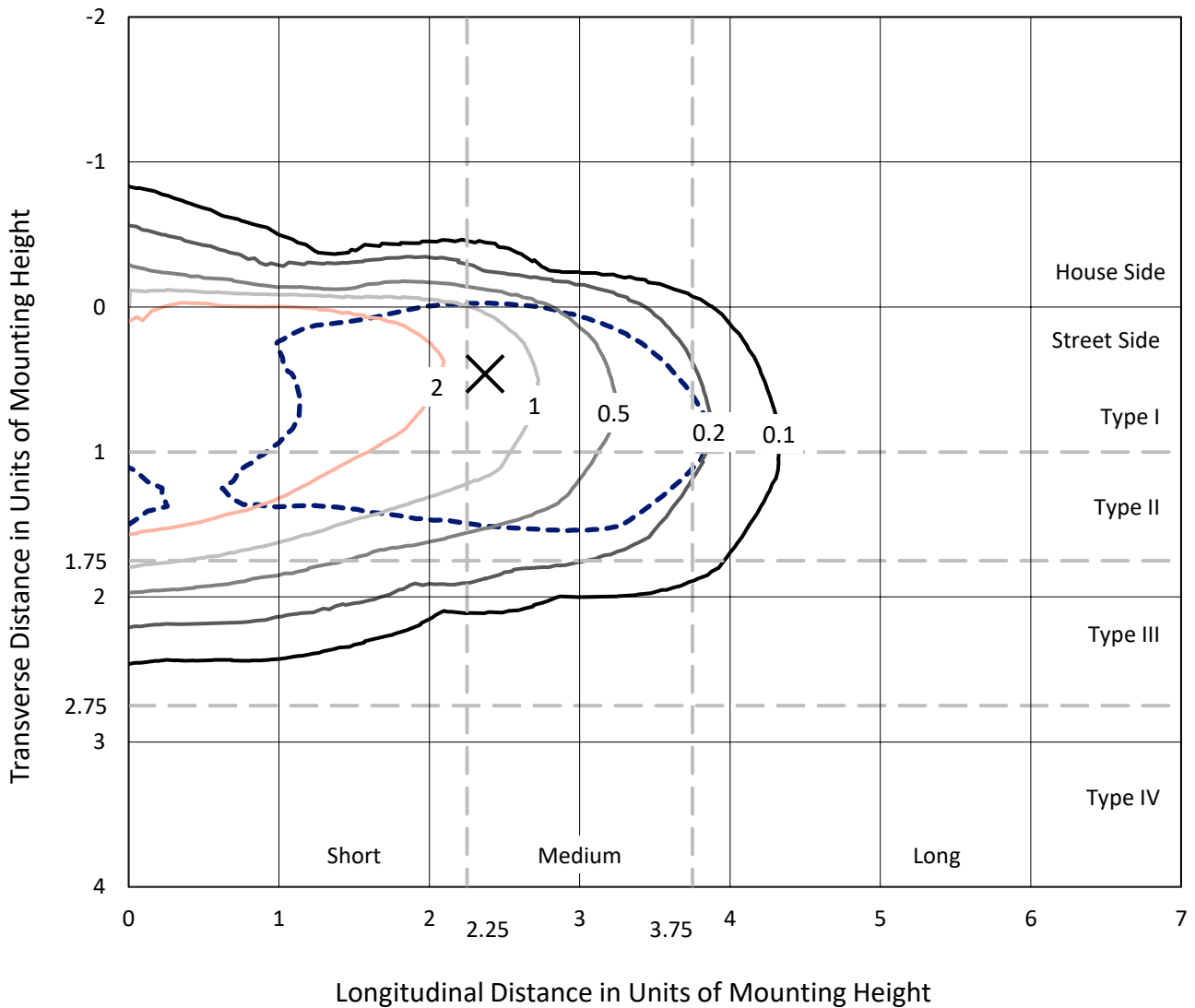
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

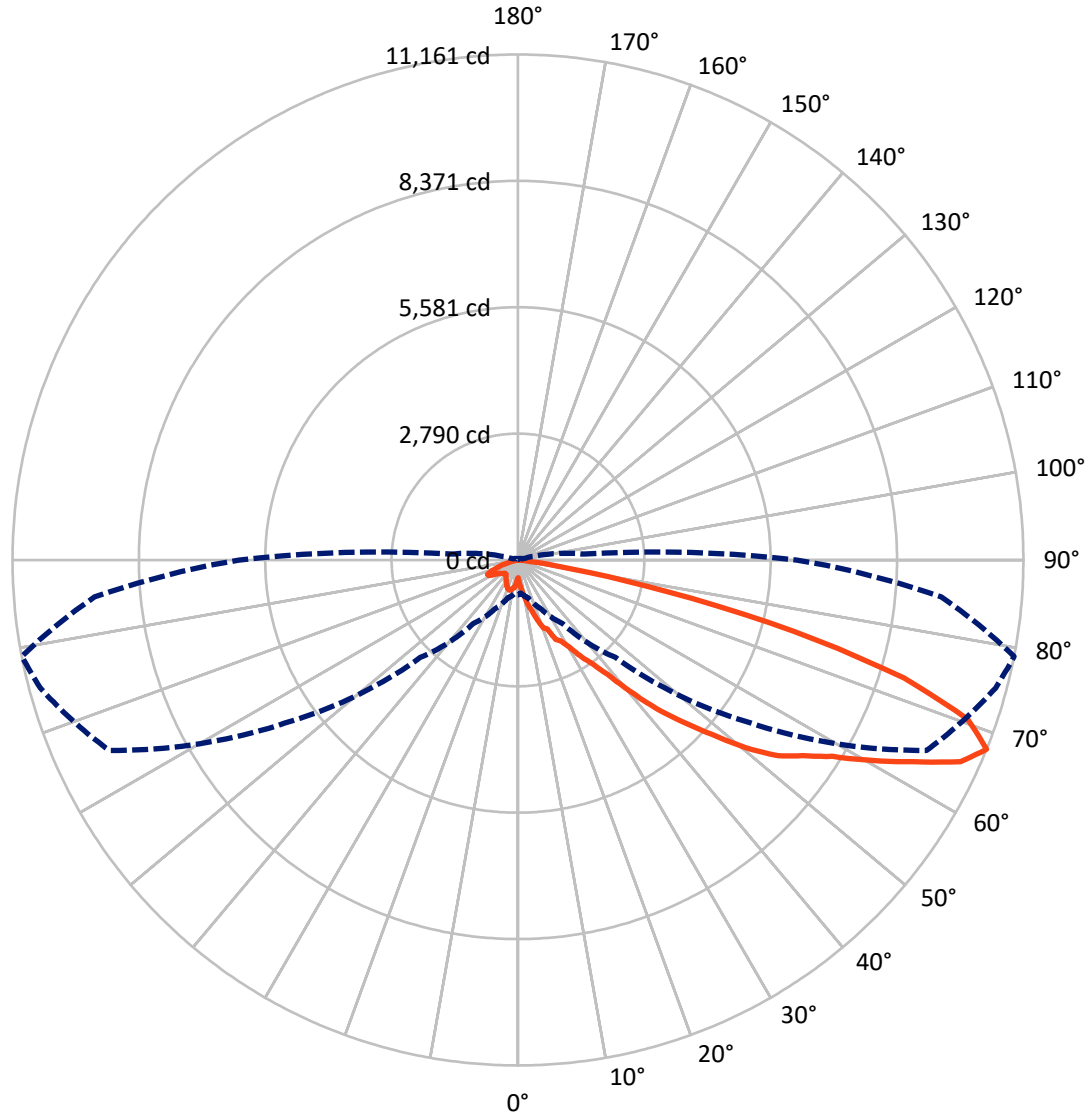
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.8 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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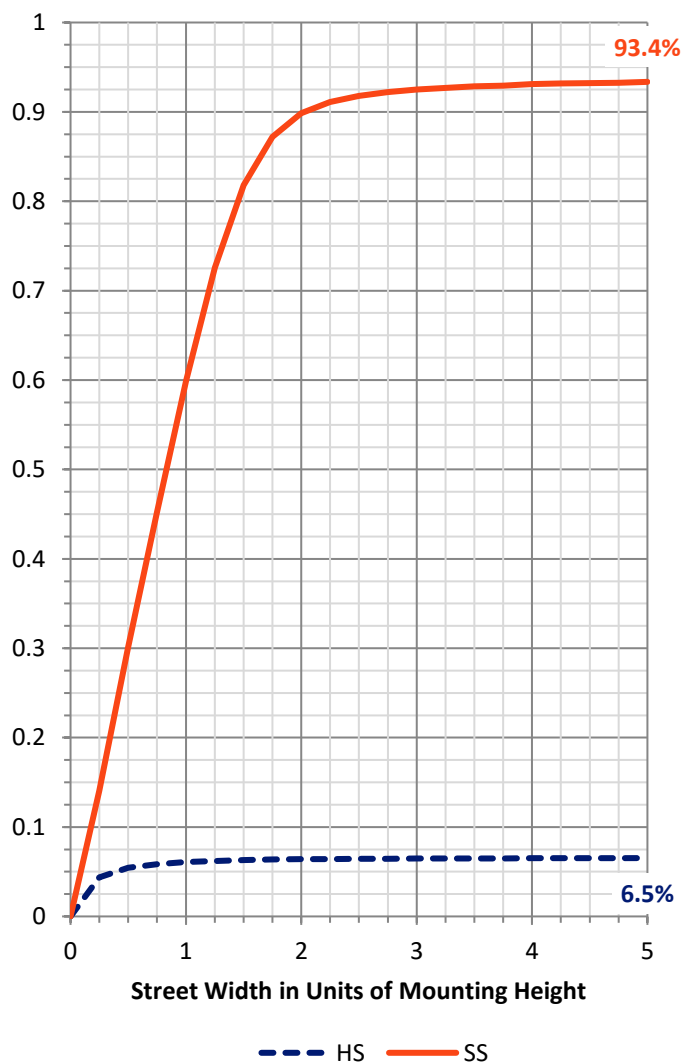
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	668.4	0.0	668.4
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	9503.6	0.0	9503.6
	% Fixture	93.4	0.0	93.4
Total	Lumens	10172.0	0.0	10172.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.0	0.6
10°-20°	227.3	2.2
20°-30°	438.5	4.3
30°-40°	861.4	8.5
40°-50°	1725.5	17.0
50°-60°	2758.0	27.1
60°-70°	2775.0	27.3
70°-80°	1251.9	12.3
80°-90°	77.5	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°	10172.0	100.0
0°-180°	10172.0	100.0

Coefficient of Utilization



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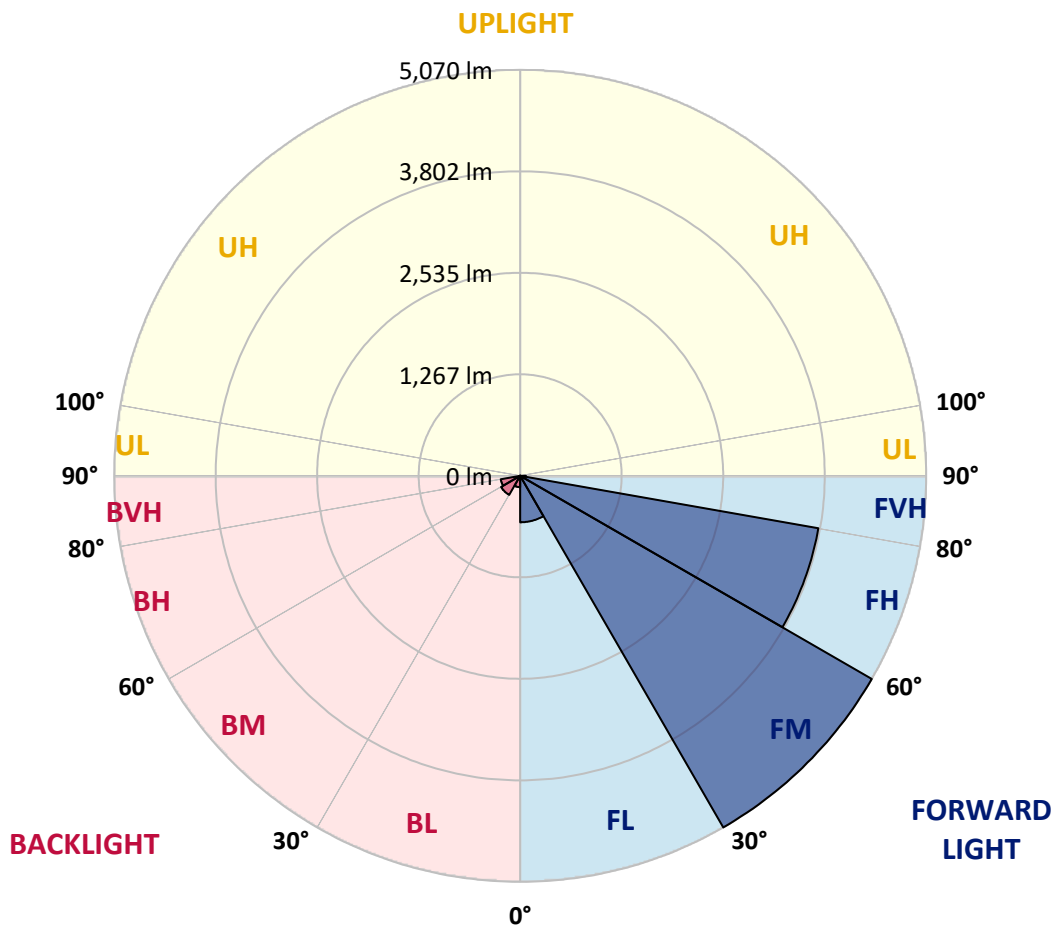
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	580.7	5.7			
FM (30°-60°)	5069.9	49.8			
FH (60°-80°)	3780.5	37.2			G2/5000
FVH (80°-90°)	72.5	0.7			G1/100
BL (0°-30°)	142.1	1.4	B1/500		
BM (30°-60°)	275.0	2.7	B1/1000		
BH (60°-80°)	246.4	2.4	B1/500		G1/500
BVH (80°-90°)	4.9	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°	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0
2.5°	529.3	510.3	479.4	496.8	495.7	504.7	487.8	469.3	439.6	469.3	471.6
5°	762.0	726.7	704.3	699.8	675.1	652.1	647.1	628.0	613.4	587.1	610.6
7.5°	949.3	933.1	893.3	888.8	828.2	794.6	805.2	796.8	741.3	713.8	736.8
10°	1028.9	1000.9	1006.5	1000.9	975.1	984.7	962.8	937.5	893.3	847.8	790.6
12.5°	1059.8	1055.3	1101.8	1096.2	1156.8	1229.7	1180.9	1138.9	1036.2	1025.0	947.1
15°	1126.0	1154.0	1147.3	1170.8	1209.5	1333.4	1332.3	1342.4	1233.6	1175.3	1062.6
17.5°	1184.8	1205.6	1171.9	1198.9	1304.3	1379.4	1479.8	1440.5	1452.9	1393.4	1219.0
20°	1159.6	1183.2	1149.5	1133.2	1318.8	1461.3	1595.3	1566.7	1640.7	1603.7	1363.1
22.5°	1317.2	1272.9	1188.2	1135.5	1274.0	1459.6	1636.2	1755.7	1742.8	1651.9	1497.2
25°	1511.7	1484.8	1383.3	1290.3	1302.6	1449.5	1765.2	1940.7	1978.8	1940.1	1624.4
27.5°	1774.2	1768.0	1560.5	1520.2	1400.2	1405.2	1785.4	2174.0	2087.1	2026.5	1773.0
30°	2116.8	2068.0	1821.8	1769.1	1591.9	1505.0	1908.7	2375.3	2311.3	2228.9	1912.7
32.5°	2485.2	2492.5	2178.5	2004.6	1862.2	1759.0	1860.0	2469.5	2588.9	2522.2	2087.1
35°	2903.5	2936.0	2551.9	2347.8	2070.8	1918.8	2069.7	2758.8	2973.0	2797.5	2320.9
37.5°	3547.8	3546.6	3098.1	2691.5	2490.2	2325.4	2419.0	3021.8	3445.2	3198.4	2740.3
40°	4114.7	3991.3	3574.1	3107.0	2793.0	2748.2	2680.3	3381.8	3949.3	3800.7	3113.2
42.5°	4538.0	4451.1	3947.0	3583.7	3194.5	3052.1	3028.0	3909.4	4693.4	4485.3	3645.3
45°	5044.4	4759.5	4388.3	4060.8	3664.4	3622.9	3566.3	4444.9	5559.1	5090.4	4107.9
47.5°	5498.0	5230.0	4879.0	4458.4	4003.1	4345.1	4127.6	4915.4	6188.8	5748.7	4618.2
50°	5879.9	5595.0	5201.9	4881.8	4686.6	4918.8	4556.0	5302.9	6869.0	6512.4	5095.4
52.5°	6074.4	5752.0	5448.1	5250.2	5369.6	5317.4	5136.9	5772.2	7448.8	7181.9	5518.2
55°	5914.6	5599.5	5472.2	5570.3	5933.1	5782.3	5796.9	6499.5	7996.1	7628.2	5886.0
57.5°	5205.9	4918.2	4974.8	5243.4	5938.7	6333.5	6549.4	7206.0	8435.1	8184.5	6453.5
60°	3938.0	3706.5	3916.2	4392.8	5380.3	6223.6	7083.2	7912.5	9062.6	8984.1	7312.5
62.5°	2405.0	2279.4	2576.6	3171.0	4287.4	5684.7	7394.4	8854.6	9733.8	9817.3	8223.7
65°	1226.9	1170.3	1418.1	1940.7	2896.8	4669.8	7169.6	9440.0	10427.4	10735.8	9092.3
67.5°	772.7	736.2	868.6	1183.7	1709.1	3045.9	6277.4	9951.9	10917.5	11161.4	9382.2
70°	535.5	512.5	626.9	812.5	1078.3	1640.7	4660.8	9474.2	10528.9	10540.1	8680.7
72.5°	339.8	321.9	433.4	601.7	795.7	847.3	2671.9	7434.2	9012.7	8909.0	7029.9
75°	220.4	211.4	275.3	440.7	611.2	522.6	1320.5	5016.3	6462.5	6299.9	4669.2
77.5°	158.1	152.5	184.5	294.4	435.1	365.6	592.1	2989.8	3705.3	3349.8	2266.5
80°	95.3	94.8	133.5	184.5	309.5	257.9	273.6	1357.5	1436.6	1171.4	692.5
82.5°	47.7	49.3	74.6	118.9	199.1	168.8	125.0	452.0	385.8	284.3	140.2
85°	11.2	14.0	39.3	81.9	99.8	67.3	59.4	118.3	106.0	80.2	40.9
87.5°	0.0	0.0	12.3	19.6	26.9	11.2	20.2	22.4	28.6	22.4	8.4
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°	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0
2.5°	472.1	465.4	424.5	413.8	412.7	400.9	403.7	392.5	393.1	418.3	418.3
5°	601.7	562.4	523.2	488.4	464.8	431.2	418.9	413.8	409.3	419.4	425.6
7.5°	706.5	648.8	578.1	502.4	432.3	384.1	377.4	365.0	360.6	370.6	378.5
10°	753.1	681.3	584.3	473.8	408.2	369.0	336.4	319.1	315.7	315.1	317.9
12.5°	851.8	762.6	591.0	463.2	392.0	348.8	311.8	282.6	255.7	258.5	255.7
15°	930.8	825.4	591.0	437.4	352.7	309.5	244.5	229.9	226.0	232.1	227.1
17.5°	1050.3	887.6	561.3	391.4	319.1	240.6	215.9	214.8	222.6	231.6	226.0
20°	1122.0	896.1	511.4	338.7	261.9	208.6	199.6	190.6	201.9	209.2	206.4
22.5°	1196.6	896.6	461.5	310.6	210.8	190.1	175.5	168.2	169.9	176.6	177.8
25°	1228.6	874.7	414.9	273.6	191.2	169.9	154.8	146.9	144.1	147.5	146.4
27.5°	1315.5	832.7	364.5	233.3	181.7	150.8	136.8	127.3	118.9	124.5	125.6
30°	1327.8	819.2	337.0	207.5	169.3	133.5	121.1	111.0	104.9	112.7	112.7
32.5°	1367.1	745.2	323.0	196.8	156.4	123.4	106.5	99.3	98.1	103.2	103.7
35°	1427.6	712.7	302.2	188.4	144.7	111.6	95.9	92.5	91.4	95.3	95.3
37.5°	1632.9	672.3	279.2	181.1	134.6	105.4	93.1	87.5	88.0	91.4	93.6
40°	1769.1	677.4	245.0	172.1	122.8	99.8	87.5	83.5	83.0	84.7	86.4
42.5°	2022.0	681.3	229.9	162.6	113.8	93.1	81.9	79.1	76.8	78.5	80.2
45°	2304.6	702.0	222.1	154.8	108.8	89.2	76.8	75.1	70.1	71.2	73.5
47.5°	2577.1	777.7	212.5	143.5	104.3	86.9	71.8	67.8	64.5	63.9	66.2
50°	2886.7	851.2	201.9	131.2	99.8	83.5	66.7	60.6	58.3	58.3	60.0
52.5°	3163.7	921.3	191.8	122.8	96.4	77.4	62.2	56.1	54.4	54.4	56.6
55°	3455.2	994.7	182.8	115.0	92.0	71.2	58.3	52.7	52.1	51.0	52.7
57.5°	3970.0	1155.1	171.6	108.2	85.8	66.2	55.0	49.3	48.2	46.5	48.2
60°	4719.7	1401.3	157.0	101.5	78.5	62.8	52.1	45.4	43.7	40.9	41.5
62.5°	5452.6	1600.3	140.2	93.1	71.8	59.4	47.7	40.9	38.1	34.8	35.3
65°	6080.6	1678.8	122.2	83.0	65.0	51.6	41.5	35.9	32.0	27.5	26.9
67.5°	6154.6	1482.6	104.9	73.5	58.3	43.7	35.3	32.0	25.8	21.9	20.7
70°	5538.9	1104.6	87.5	65.0	50.5	37.0	30.3	28.0	24.1	20.7	19.1
72.5°	4410.7	815.3	73.5	57.8	44.3	31.4	25.8	26.4	24.1	20.2	17.9
75°	2916.9	466.5	60.0	48.2	37.0	25.2	23.6	23.6	23.0	19.1	16.8
77.5°	1403.5	201.3	46.0	38.1	29.7	19.1	21.3	21.3	21.9	17.4	14.0
80°	398.1	60.6	28.6	25.8	21.9	12.9	16.8	16.3	14.6	10.1	6.2
82.5°	71.2	23.6	12.9	13.5	12.3	5.0	9.5	9.0	7.3	3.9	0.6
85°	19.6	9.0	7.3	7.9	6.2	1.7	3.9	5.0	3.9	2.2	0.0
87.5°	5.0	3.9	5.0	5.6	4.5	0.6	1.7	0.6	1.7	0.6	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)