

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: P367757

Luminaire Tested: **MSA-SA3A-760-U-T2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367757
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-SA3A-760-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: 8847 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G2

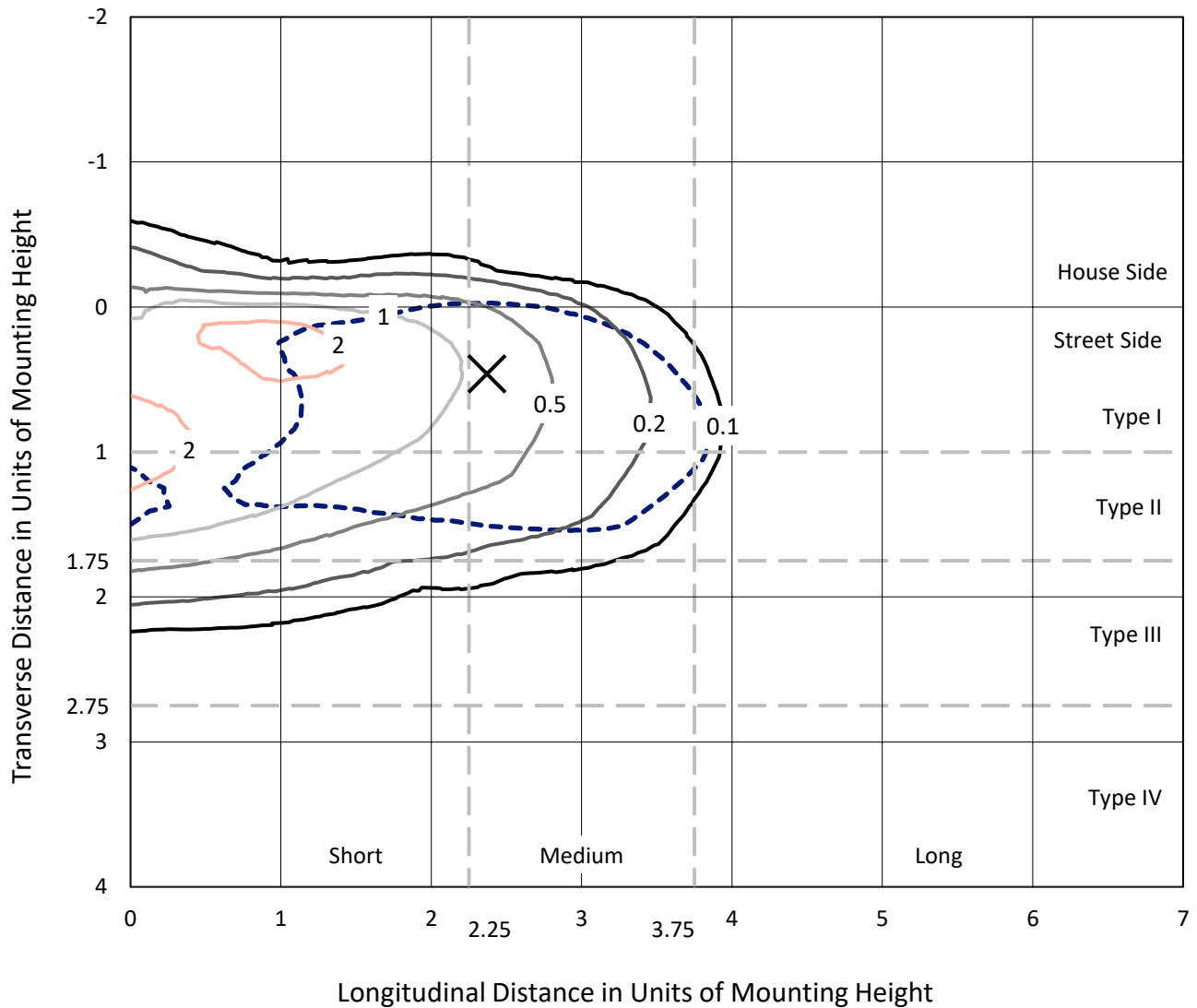
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

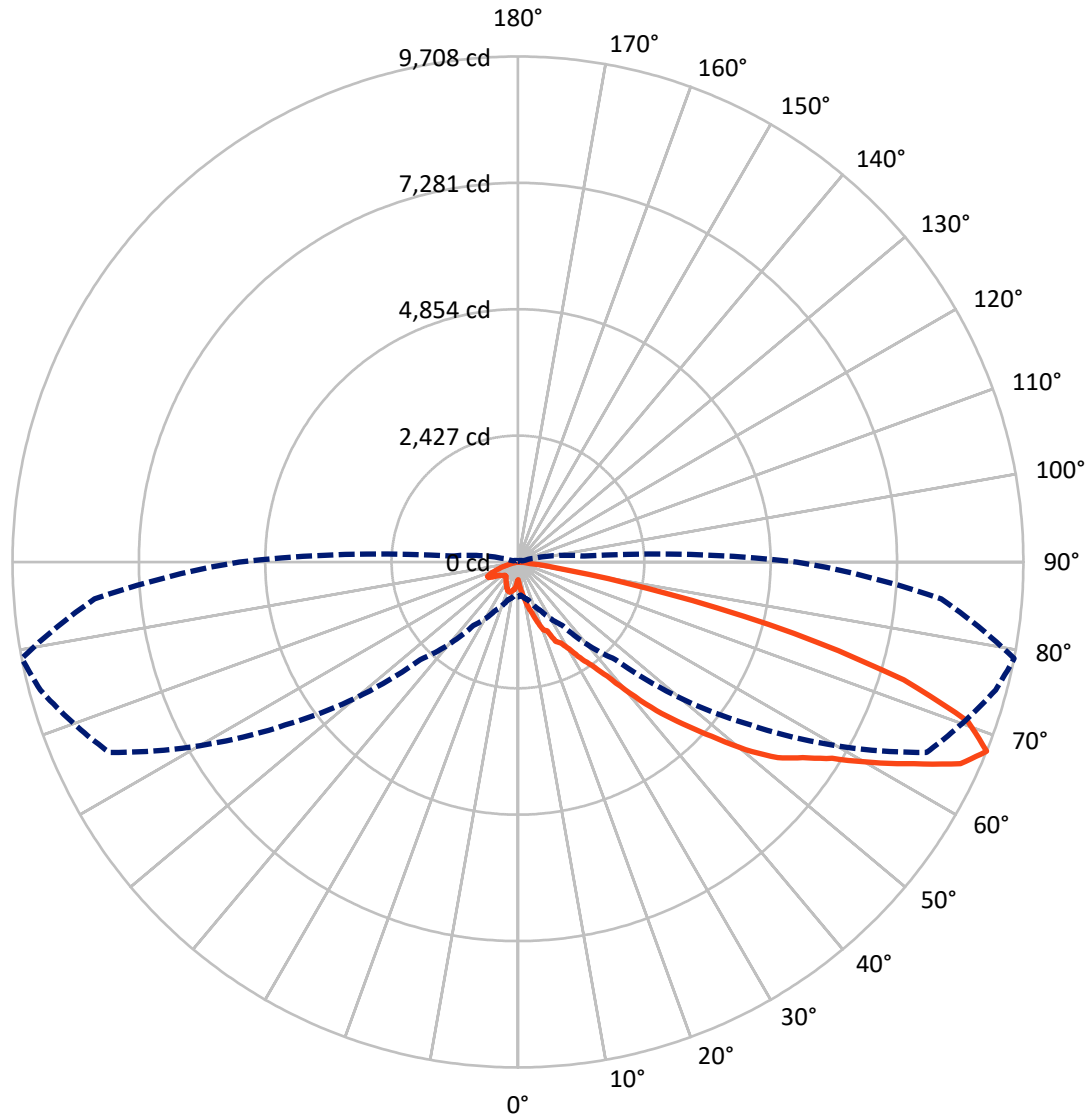
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.7 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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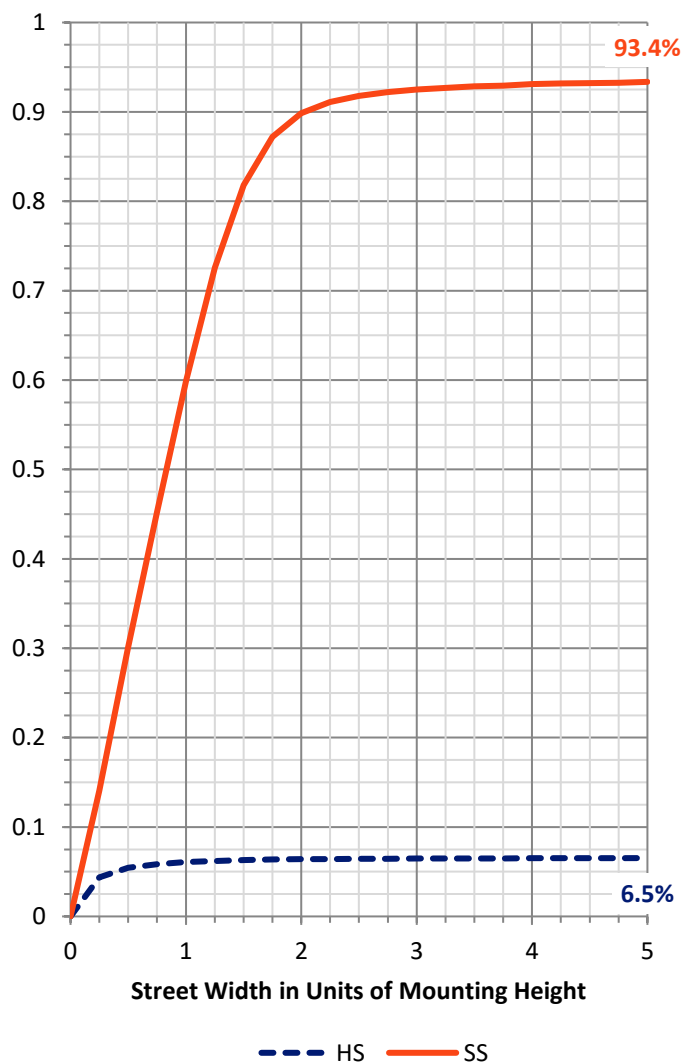
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	581.3	0.0	581.3
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	8265.7	0.0	8265.7
	% Fixture	93.4	0.0	93.4
Total	Lumens	8847.0	0.0	8847.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.6	0.6
10°-20°	197.7	2.2
20°-30°	381.4	4.3
30°-40°	749.2	8.5
40°-50°	1500.7	17.0
50°-60°	2398.7	27.1
60°-70°	2413.5	27.3
70°-80°	1088.8	12.3
80°-90°	67.4	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°	8847.0	100.0
0°-180°	8847.0	100.0

Coefficient of Utilization



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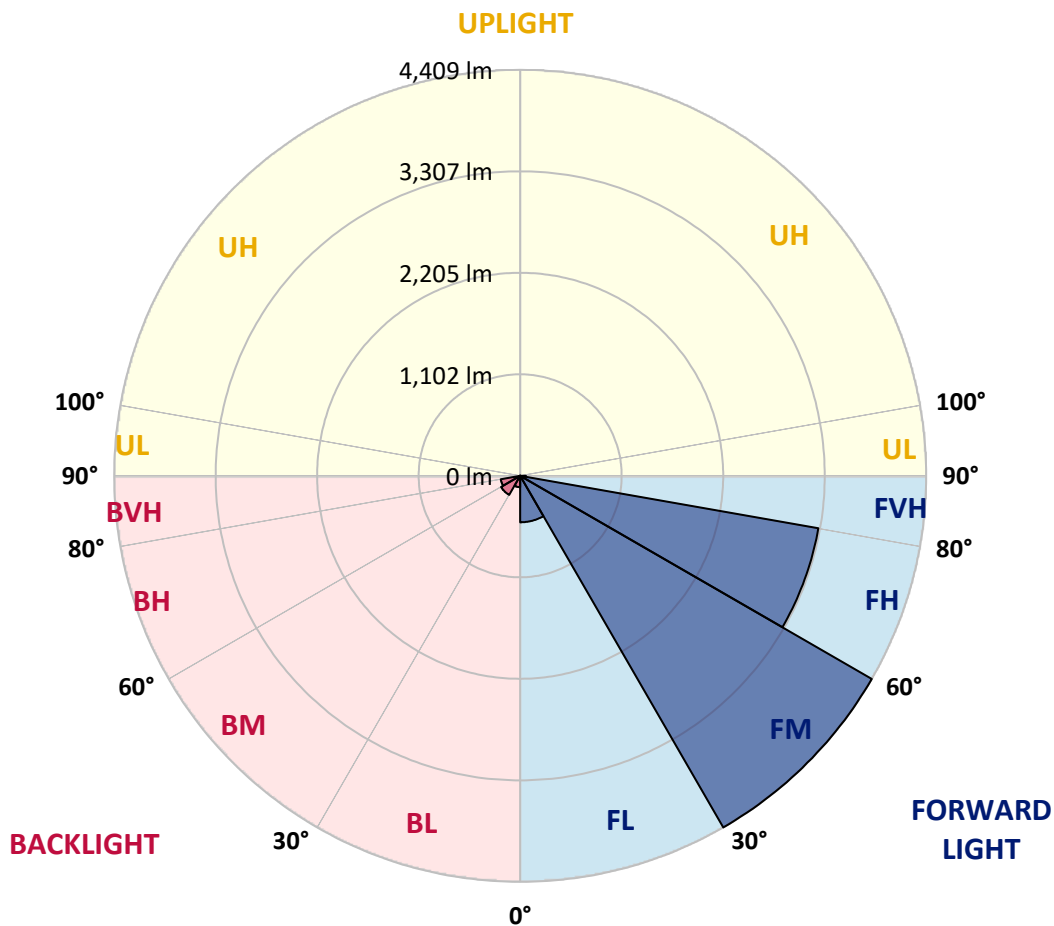
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	505.1	5.7			
FM (30°-60°)	4409.5	49.8			
FH (60°-80°)	3288.1	37.2			G2/5000
FVH (80°-90°)	63.1	0.7			G1/100
BL (0°-30°)	123.6	1.4	B1/500		
BM (30°-60°)	239.2	2.7	B1/1000		
BH (60°-80°)	214.3	2.4	B1/500		G1/500
BVH (80°-90°)	4.3	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-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	340.9	340.9	340.9	340.9	340.9	340.9	340.9	340.9	340.9	340.9	340.9
2.5°	460.4	443.8	417.0	432.1	431.1	438.9	424.3	408.2	382.4	408.2	410.2
5°	662.8	632.1	612.5	608.6	587.2	567.2	562.8	546.2	533.5	510.6	531.1
7.5°	825.7	811.5	776.9	773.0	720.3	691.1	700.3	693.0	644.7	620.8	640.8
10°	894.9	870.5	875.4	870.5	848.1	856.4	837.4	815.4	776.9	737.4	687.6
12.5°	921.7	917.8	958.3	953.4	1006.1	1069.5	1027.1	990.5	901.3	891.5	823.7
15°	979.3	1003.7	997.8	1018.3	1052.0	1159.7	1158.8	1167.5	1072.9	1022.2	924.2
17.5°	1030.5	1048.5	1019.3	1042.7	1134.4	1199.7	1287.0	1252.9	1263.6	1211.9	1060.2
20°	1008.6	1029.0	999.8	985.6	1147.1	1270.9	1387.5	1362.6	1427.0	1394.8	1185.6
22.5°	1145.6	1107.1	1033.4	987.6	1108.0	1269.5	1423.1	1527.0	1515.8	1436.7	1302.1
25°	1314.8	1291.4	1203.1	1122.2	1132.9	1260.7	1535.3	1687.9	1721.1	1687.4	1412.8
27.5°	1543.1	1537.7	1357.3	1322.1	1217.8	1222.2	1552.8	1890.8	1815.2	1762.5	1542.1
30°	1841.0	1798.6	1584.5	1538.7	1384.6	1309.0	1660.1	2065.9	2010.3	1938.6	1663.5
32.5°	2161.5	2167.8	1894.7	1743.5	1619.6	1529.9	1617.7	2147.8	2251.7	2193.6	1815.2
35°	2525.3	2553.6	2219.5	2042.0	1801.1	1668.9	1800.1	2399.5	2585.8	2433.1	2018.6
37.5°	3085.6	3084.7	2694.5	2340.9	2165.8	2022.5	2103.9	2628.2	2996.4	2781.8	2383.4
40°	3578.7	3471.4	3108.6	2702.3	2429.2	2390.2	2331.2	2941.3	3434.8	3305.6	2707.7
42.5°	3946.9	3871.3	3432.9	3116.9	2778.4	2654.5	2633.5	3400.2	4082.0	3901.1	3170.5
45°	4387.3	4139.5	3816.7	3531.9	3187.1	3151.0	3101.7	3865.9	4835.0	4427.3	3572.8
47.5°	4781.8	4548.7	4243.4	3877.7	3481.6	3779.1	3589.9	4275.1	5382.7	4999.8	4016.6
50°	5114.0	4866.2	4524.3	4245.9	4076.1	4278.0	3962.5	4612.1	5974.2	5664.1	4431.7
52.5°	5283.2	5002.8	4738.4	4566.3	4670.2	4624.8	4467.8	5020.3	6478.5	6246.4	4799.4
55°	5144.2	4870.1	4759.4	4844.7	5160.3	5029.1	5041.8	5652.9	6954.5	6634.6	5119.3
57.5°	4527.7	4277.6	4326.8	4560.4	5165.2	5508.5	5696.3	6267.4	7336.4	7118.4	5612.9
60°	3425.1	3223.7	3406.1	3820.6	4679.4	5412.9	6160.5	6881.8	7882.1	7813.8	6360.0
62.5°	2091.7	1982.5	2241.0	2757.9	3728.9	4944.2	6431.2	7701.2	8465.9	8538.5	7152.5
65°	1067.1	1017.8	1233.4	1687.9	2519.4	4061.5	6235.7	8210.3	9069.2	9337.4	7908.0
67.5°	672.0	640.3	755.4	1029.5	1486.5	2649.2	5459.7	8655.6	9495.4	9707.5	8160.1
70°	465.7	445.8	545.2	706.7	937.8	1427.0	4053.7	8240.1	9157.4	9167.2	7550.0
72.5°	295.5	279.9	377.0	523.3	692.0	736.9	2323.9	6465.8	7838.7	7748.5	6114.2
75°	191.7	183.9	239.5	383.3	531.6	454.5	1148.5	4362.9	5620.7	5479.2	4061.0
77.5°	137.5	132.7	160.5	256.0	378.5	318.0	515.0	2600.4	3222.7	2913.5	1971.3
80°	82.9	82.4	116.1	160.5	269.2	224.3	238.0	1180.7	1249.5	1018.8	602.3
82.5°	41.5	42.9	64.9	103.4	173.1	146.8	108.8	393.1	335.5	247.3	121.9
85°	9.8	12.2	34.1	71.2	86.8	58.5	51.7	102.9	92.2	69.7	35.6
87.5°	0.0	0.0	10.7	17.1	23.4	9.8	17.6	19.5	24.9	19.5	7.3
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°	340.9	340.9	340.9	340.9	340.9	340.9	340.9	340.9	340.9	340.9	340.9
2.5°	410.6	404.8	369.2	359.9	358.9	348.7	351.1	341.4	341.9	363.8	363.8
5°	523.3	489.2	455.0	424.8	404.3	375.0	364.3	359.9	356.0	364.8	370.2
7.5°	614.5	564.3	502.8	437.0	376.0	334.1	328.2	317.5	313.6	322.4	329.2
10°	655.0	592.5	508.2	412.1	355.0	320.9	292.6	277.5	274.6	274.1	276.5
12.5°	740.8	663.3	514.0	402.8	340.9	303.3	271.2	245.8	222.4	224.8	222.4
15°	809.6	717.9	514.0	380.4	306.8	269.2	212.6	200.0	196.5	201.9	197.5
17.5°	913.5	772.0	488.2	340.4	277.5	209.2	187.8	186.8	193.6	201.4	196.5
20°	975.9	779.3	444.8	294.6	227.8	181.4	173.6	165.8	175.6	181.9	179.5
22.5°	1040.7	779.8	401.4	270.2	183.4	165.3	152.6	146.3	147.8	153.6	154.6
25°	1068.5	760.8	360.9	238.0	166.3	147.8	134.6	127.8	125.3	128.3	127.3
27.5°	1144.1	724.2	317.0	202.9	158.0	131.2	119.0	110.7	103.4	108.3	109.2
30°	1154.9	712.5	293.1	180.4	147.3	116.1	105.3	96.6	91.2	98.0	98.0
32.5°	1189.0	648.1	280.9	171.2	136.1	107.3	92.7	86.3	85.3	89.7	90.2
35°	1241.7	619.9	262.9	163.9	125.8	97.1	83.4	80.5	79.5	82.9	82.9
37.5°	1420.2	584.7	242.9	157.5	117.0	91.7	81.0	76.1	76.6	79.5	81.4
40°	1538.7	589.1	213.1	149.7	106.8	86.8	76.1	72.7	72.2	73.6	75.1
42.5°	1758.6	592.5	200.0	141.4	99.0	81.0	71.2	68.8	66.8	68.3	69.7
45°	2004.4	610.6	193.1	134.6	94.6	77.5	66.8	65.4	61.0	61.9	63.9
47.5°	2241.4	676.4	184.8	124.8	90.7	75.6	62.4	59.0	56.1	55.6	57.5
50°	2510.6	740.3	175.6	114.1	86.8	72.7	58.0	52.7	50.7	50.7	52.2
52.5°	2751.6	801.3	166.8	106.8	83.9	67.3	54.1	48.8	47.3	47.3	49.3
55°	3005.2	865.2	159.0	100.0	80.0	61.9	50.7	45.8	45.4	44.4	45.8
57.5°	3452.9	1004.6	149.2	94.1	74.6	57.5	47.8	42.9	41.9	40.5	41.9
60°	4104.9	1218.7	136.6	88.3	68.3	54.6	45.4	39.5	38.0	35.6	36.1
62.5°	4742.3	1391.9	121.9	81.0	62.4	51.7	41.5	35.6	33.2	30.2	30.7
65°	5288.6	1460.2	106.3	72.2	56.6	44.9	36.1	31.2	27.8	23.9	23.4
67.5°	5352.9	1289.5	91.2	63.9	50.7	38.0	30.7	27.8	22.4	19.0	18.0
70°	4817.4	960.8	76.1	56.6	43.9	32.2	26.3	24.4	21.0	18.0	16.6
72.5°	3836.2	709.1	63.9	50.2	38.5	27.3	22.4	22.9	21.0	17.6	15.6
75°	2537.0	405.8	52.2	41.9	32.2	21.9	20.5	20.5	20.0	16.6	14.6
77.5°	1220.7	175.1	40.0	33.2	25.8	16.6	18.5	18.5	19.0	15.1	12.2
80°	346.3	52.7	24.9	22.4	19.0	11.2	14.6	14.1	12.7	8.8	5.4
82.5°	61.9	20.5	11.2	11.7	10.7	4.4	8.3	7.8	6.3	3.4	0.5
85°	17.1	7.8	6.3	6.8	5.4	1.5	3.4	4.4	3.4	2.0	0.0
87.5°	4.4	3.4	4.4	4.9	3.9	0.5	1.5	0.5	1.5	0.5	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)