

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: P368285

Luminaire Tested: **MSA-SA4A-760-U-T2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368285
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-SA4A-760-U-T2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 11693 lumens
Efficiency: N/A
Efficacy: 90.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G2

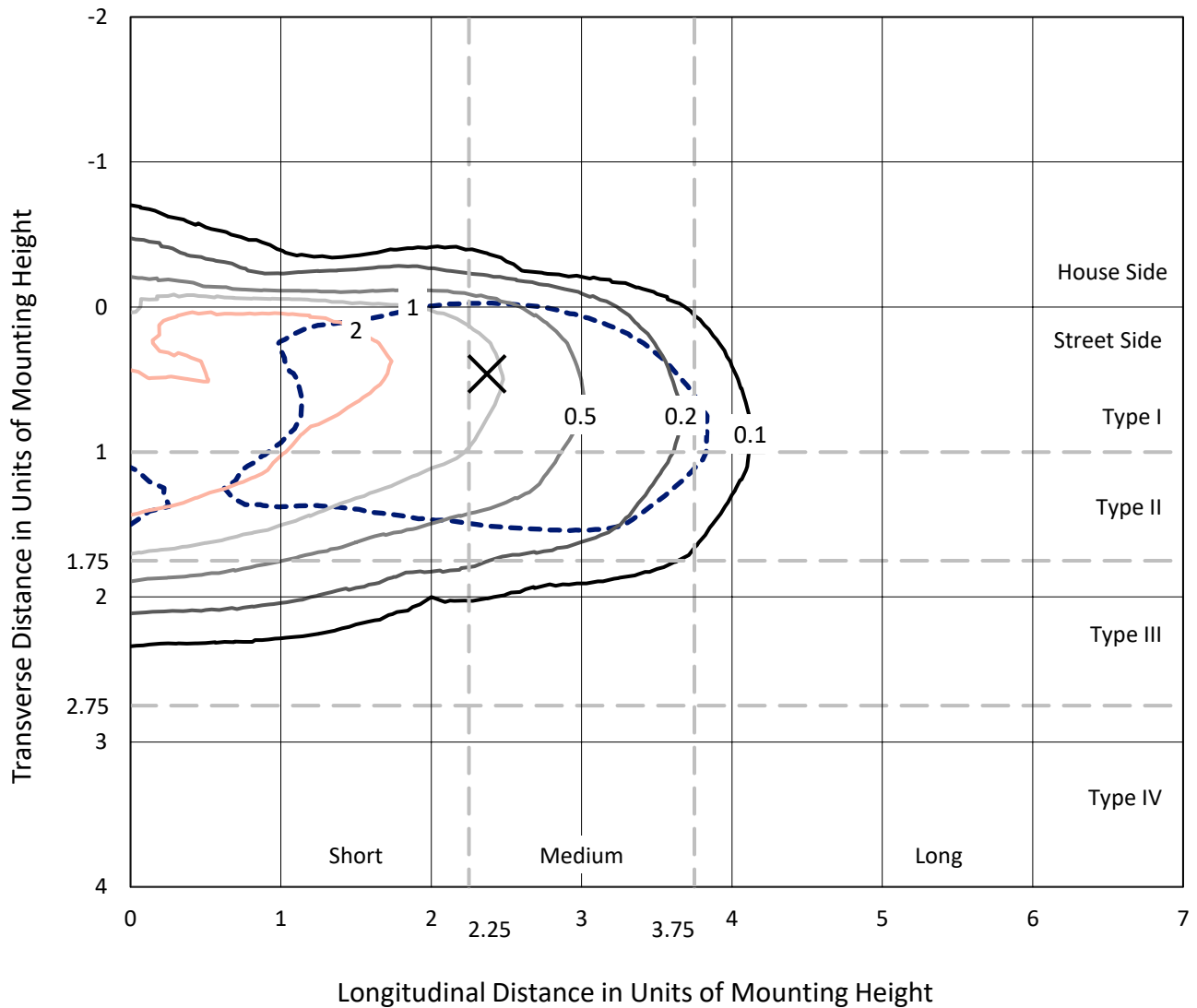
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

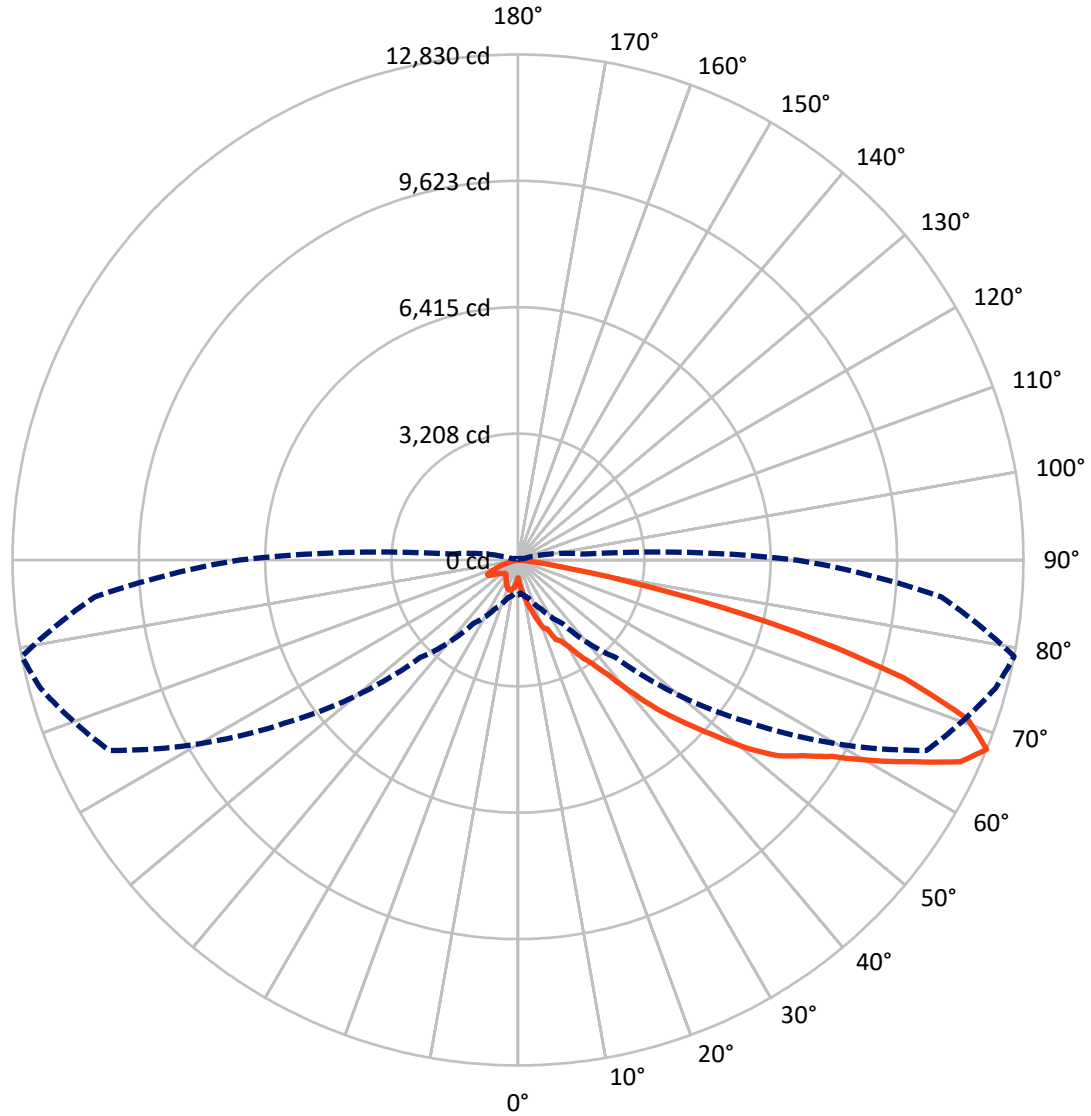
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.5 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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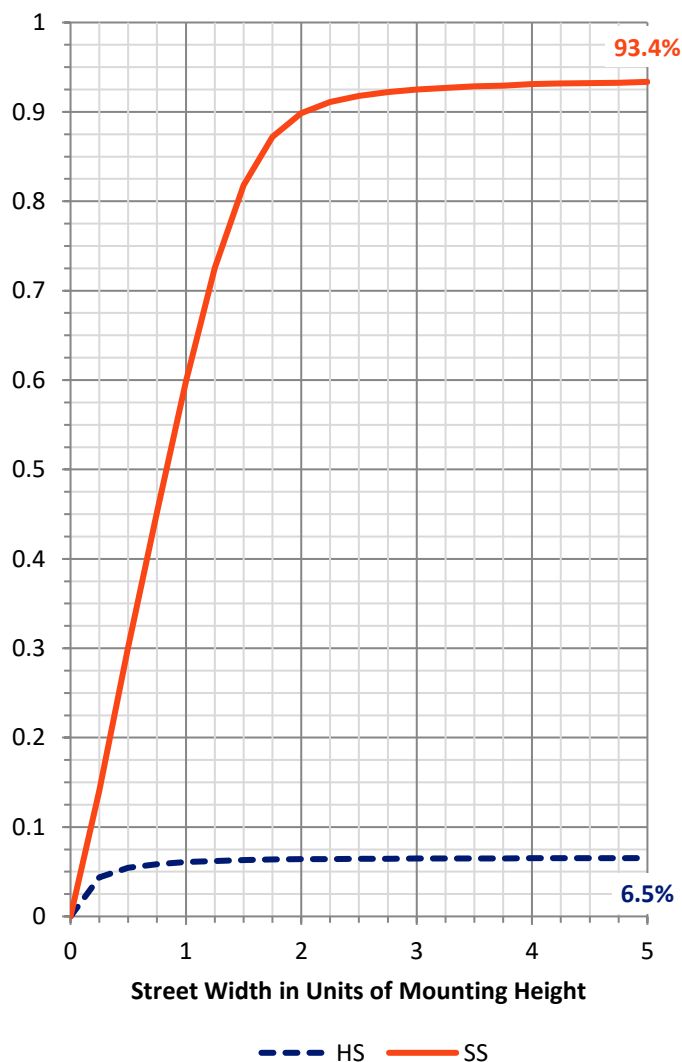
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	768.3	0.0	768.3
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	10924.7	0.0	10924.7
	% Fixture	93.4	0.0	93.4
Total	Lumens	11693.0	0.0	11693.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.5	0.6
10°-20°	261.3	2.2
20°-30°	504.1	4.3
30°-40°	990.2	8.5
40°-50°	1983.5	17.0
50°-60°	3170.4	27.1
60°-70°	3190.0	27.3
70°-80°	1439.1	12.3
80°-90°	89.0	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°	11693.0	100.0
0°-180°	11693.0	100.0

Coefficient of Utilization



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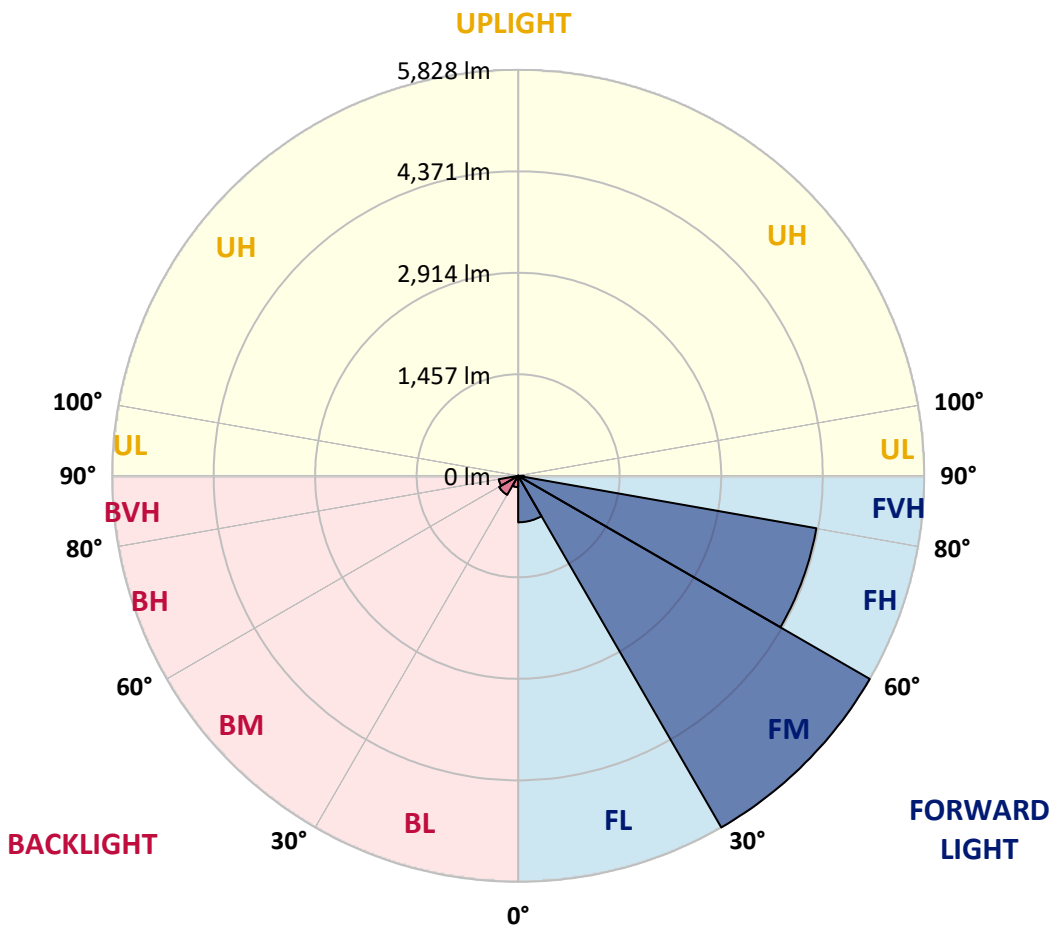
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	667.5	5.7			
FM (30°-60°)	5828.0	49.8			
FH (60°-80°)	4345.8	37.2			G2/5000
FVH (80°-90°)	83.4	0.7			G1/100
BL (0°-30°)	163.3	1.4	B1/500		
BM (30°-60°)	316.1	2.7	B1/1000		
BH (60°-80°)	283.2	2.4	B1/500		G1/500
BVH (80°-90°)	5.7	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°	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6
2.5°	608.5	586.6	551.1	571.1	569.8	580.1	560.8	539.5	505.4	539.5	542.1
5°	876.0	835.4	809.6	804.4	776.1	749.6	743.8	721.9	705.2	674.9	701.9
7.5°	1091.3	1072.6	1026.8	1021.7	952.0	913.4	925.6	915.9	852.1	820.6	847.0
10°	1182.8	1150.6	1157.0	1150.6	1120.9	1131.9	1106.7	1077.7	1026.8	974.6	908.9
12.5°	1218.3	1213.1	1266.6	1260.2	1329.8	1413.6	1357.5	1309.1	1191.2	1178.3	1088.7
15°	1294.3	1326.5	1318.8	1345.9	1390.4	1532.8	1531.5	1543.1	1418.1	1351.0	1221.5
17.5°	1362.0	1385.8	1347.2	1378.1	1499.3	1585.7	1701.0	1655.9	1670.1	1601.8	1401.3
20°	1333.0	1360.1	1321.4	1302.7	1516.1	1679.8	1833.8	1801.0	1886.0	1843.5	1567.0
22.5°	1514.1	1463.2	1365.9	1305.3	1464.5	1677.8	1880.9	2018.2	2003.4	1898.9	1721.0
25°	1737.8	1706.8	1590.2	1483.2	1497.4	1666.2	2029.1	2230.9	2274.7	2230.2	1867.3
27.5°	2039.5	2032.4	1793.9	1747.5	1609.5	1615.3	2052.3	2499.0	2399.1	2329.5	2038.2
30°	2433.3	2377.2	2094.2	2033.7	1830.0	1730.1	2194.2	2730.4	2657.0	2562.2	2198.7
32.5°	2856.8	2865.2	2504.2	2304.4	2140.7	2022.0	2138.1	2838.7	2976.0	2899.3	2399.1
35°	3337.6	3375.0	2933.5	2698.9	2380.4	2205.8	2379.1	3171.3	3417.6	3215.8	2667.9
37.5°	4078.3	4077.0	3561.3	3094.0	2862.6	2673.1	2780.7	3473.6	3960.3	3676.7	3150.1
40°	4729.9	4588.1	4108.6	3571.6	3210.7	3159.1	3081.1	3887.5	4539.8	4369.0	3578.7
42.5°	5216.6	5116.7	4537.2	4119.5	3672.2	3508.5	3480.7	4494.0	5395.1	5156.0	4190.4
45°	5798.6	5471.2	5044.5	4668.1	4212.3	4164.6	4099.5	5109.6	6390.4	5851.5	4722.2
47.5°	6320.1	6012.0	5608.5	5125.1	4601.7	4994.9	4744.8	5650.4	7114.2	6608.2	5308.8
50°	6759.1	6431.6	5979.8	5611.7	5387.4	5654.3	5237.2	6095.8	7896.1	7486.2	5857.3
52.5°	6982.7	6612.1	6262.7	6035.2	6172.5	6112.6	5905.0	6635.3	8562.6	8255.8	6343.3
55°	6799.0	6436.8	6290.5	6403.3	6820.3	6646.9	6663.7	7471.3	9191.7	8768.9	6766.2
57.5°	5984.3	5653.6	5718.7	6027.5	6826.8	7280.5	7528.7	8283.5	9696.4	9408.3	7418.5
60°	4526.9	4260.7	4501.7	5049.6	6184.7	7154.2	8142.3	9095.7	10417.7	10327.5	8406.0
62.5°	2764.6	2620.2	2961.8	3645.1	4928.5	6534.8	8500.1	10178.6	11189.3	11285.3	9453.4
65°	1410.3	1345.2	1630.1	2230.9	3329.9	5368.1	8241.6	10851.5	11986.6	12341.1	10451.9
67.5°	888.2	846.3	998.5	1360.7	1964.7	3501.4	7216.1	11440.0	12550.0	12830.4	10785.1
70°	615.6	589.1	720.6	934.0	1239.5	1886.0	5357.8	10890.8	12103.3	12116.2	9978.7
72.5°	390.6	370.0	498.3	691.6	914.7	974.0	3071.4	8545.8	10360.3	10241.1	8081.1
75°	253.3	243.0	316.5	506.6	702.6	600.7	1518.0	5766.4	7428.8	7241.9	5367.4
77.5°	181.8	175.3	212.1	338.4	500.2	420.3	680.7	3436.9	4259.4	3850.7	2605.4
80°	109.6	108.9	153.4	212.1	355.8	296.5	314.6	1560.5	1651.4	1346.5	796.1
82.5°	54.8	56.7	85.7	136.7	228.8	194.0	143.7	519.5	443.5	326.8	161.1
85°	12.9	16.1	45.1	94.1	114.7	77.3	68.3	136.0	121.8	92.2	47.1
87.5°	0.0	0.0	14.2	22.6	30.9	12.9	23.2	25.8	32.9	25.8	9.7
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°	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6
2.5°	542.7	535.0	487.9	475.7	474.4	460.9	464.1	451.2	451.9	480.9	480.9
5°	691.6	646.5	601.4	561.4	534.4	495.7	481.5	475.7	470.5	482.1	489.2
7.5°	812.2	745.8	664.6	577.5	497.0	441.5	433.8	419.6	414.5	426.1	435.1
10°	865.7	783.2	671.7	544.7	469.3	424.1	386.7	366.8	362.9	362.3	365.5
12.5°	979.1	876.6	679.4	532.4	450.6	400.9	358.4	324.9	293.9	297.2	293.9
15°	1070.0	948.8	679.4	502.8	405.4	355.8	281.0	264.3	259.8	266.9	261.1
17.5°	1207.3	1020.4	645.2	449.9	366.8	276.5	248.2	246.9	255.9	266.2	259.8
20°	1289.8	1030.0	587.9	389.3	301.0	239.8	229.5	219.2	232.0	240.4	237.2
22.5°	1375.5	1030.7	530.5	357.1	242.4	218.5	201.8	193.4	195.3	203.0	204.3
25°	1412.3	1005.5	477.0	314.6	219.8	195.3	177.9	168.9	165.7	169.5	168.2
27.5°	1512.2	957.2	419.0	268.1	208.8	173.4	157.3	146.3	136.7	143.1	144.4
30°	1526.4	941.7	387.4	238.5	194.7	153.4	139.2	127.6	120.5	129.6	129.6
32.5°	1571.5	856.6	371.3	226.2	179.8	141.8	122.5	114.1	112.8	118.6	119.2
35°	1641.1	819.3	347.4	216.6	166.3	128.3	110.2	106.4	105.1	109.6	109.6
37.5°	1877.0	772.9	321.0	208.2	154.7	121.2	107.0	100.6	101.2	105.1	107.6
40°	2033.7	778.7	281.7	197.9	141.2	114.7	100.6	96.0	95.4	97.3	99.3
42.5°	2324.4	783.2	264.3	186.9	130.8	107.0	94.1	90.9	88.3	90.2	92.2
45°	2649.2	807.0	255.3	177.9	125.0	102.5	88.3	86.4	80.6	81.9	84.4
47.5°	2962.5	894.0	244.3	165.0	119.9	99.9	82.5	78.0	74.1	73.5	76.1
50°	3318.3	978.5	232.0	150.8	114.7	96.0	76.7	69.6	67.0	67.0	69.0
52.5°	3636.7	1059.0	220.4	141.2	110.9	89.0	71.5	64.5	62.5	62.5	65.1
55°	3971.9	1143.5	210.1	132.1	105.7	81.9	67.0	60.6	59.9	58.7	60.6
57.5°	4563.6	1327.8	197.2	124.4	98.6	76.1	63.2	56.7	55.4	53.5	55.4
60°	5425.4	1610.8	180.5	116.7	90.2	72.2	59.9	52.2	50.3	47.1	47.7
62.5°	6267.9	1839.6	161.1	107.0	82.5	68.3	54.8	47.1	43.8	40.0	40.6
65°	6989.8	1929.9	140.5	95.4	74.8	59.3	47.7	41.3	36.7	31.6	30.9
67.5°	7074.9	1704.3	120.5	84.4	67.0	50.3	40.6	36.7	29.7	25.1	23.8
70°	6367.2	1269.8	100.6	74.8	58.0	42.5	34.8	32.2	27.7	23.8	21.9
72.5°	5070.3	937.2	84.4	66.4	50.9	36.1	29.7	30.3	27.7	23.2	20.6
75°	3353.1	536.3	69.0	55.4	42.5	29.0	27.1	27.1	26.4	21.9	19.3
77.5°	1613.4	231.4	52.9	43.8	34.2	21.9	24.5	24.5	25.1	20.0	16.1
80°	457.7	69.6	32.9	29.7	25.1	14.8	19.3	18.7	16.8	11.6	7.1
82.5°	81.9	27.1	14.8	15.5	14.2	5.8	11.0	10.3	8.4	4.5	0.6
85°	22.6	10.3	8.4	9.0	7.1	1.9	4.5	5.8	4.5	2.6	0.0
87.5°	5.8	4.5	5.8	6.4	5.2	0.6	1.9	0.6	1.9	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)