

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: P368433

Luminaire Tested: **MSA-SA4B-830-U-SL4-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368433
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-830-U-SL4-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12769 lumens
Efficiency: N/A
Efficacy: 74.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

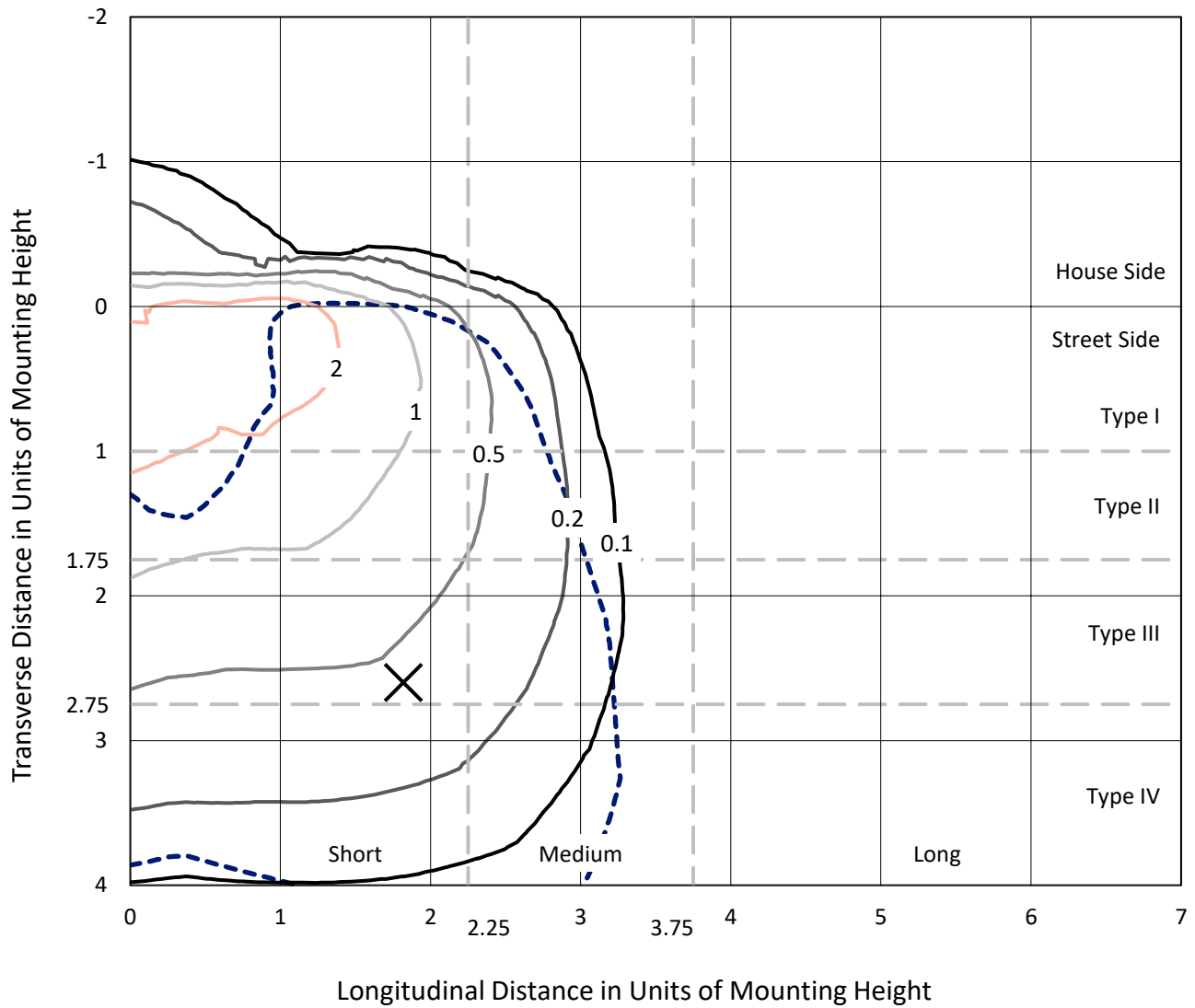
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

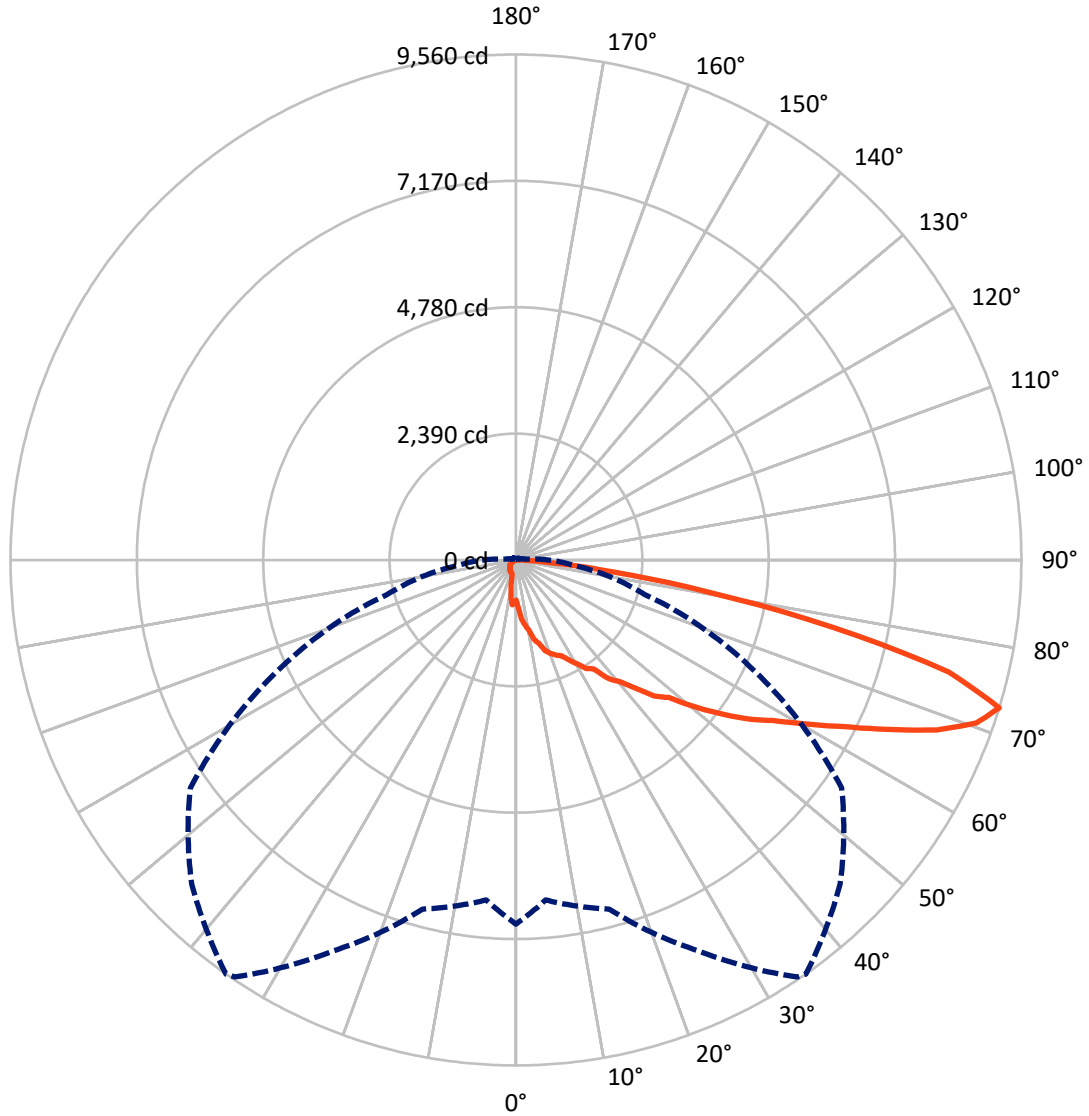
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.9 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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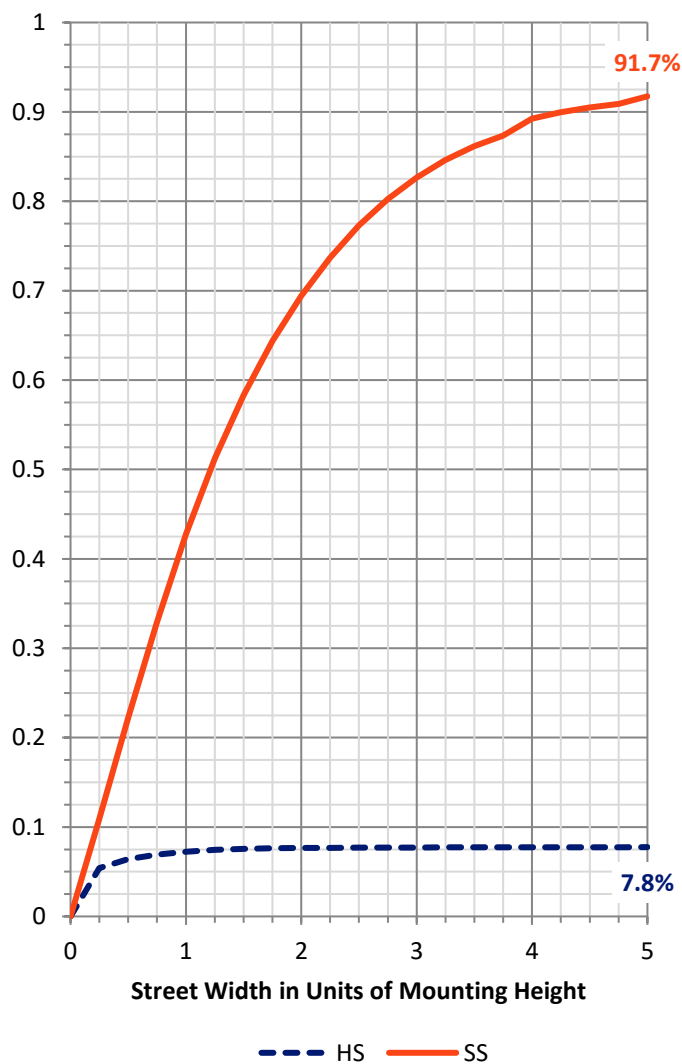
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	996.0	0.0	996.0
	% Fixture	7.8	0.0	7.8
Street Side	Lumens	11773.0	0.0	11773.0
	% Fixture	92.2	0.0	92.2
Total	Lumens	12769.0	0.0	12769.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.0	0.8
10°-20°	326.8	2.6
20°-30°	595.1	4.7
30°-40°	1026.5	8.0
40°-50°	1824.7	14.3
50°-60°	2722.9	21.3
60°-70°	3478.8	27.2
70°-80°	2420.3	19.0
80°-90°	276.9	2.2
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°	12769.0	100.0
0°-180°	12769.0	100.0

Coefficient of Utilization



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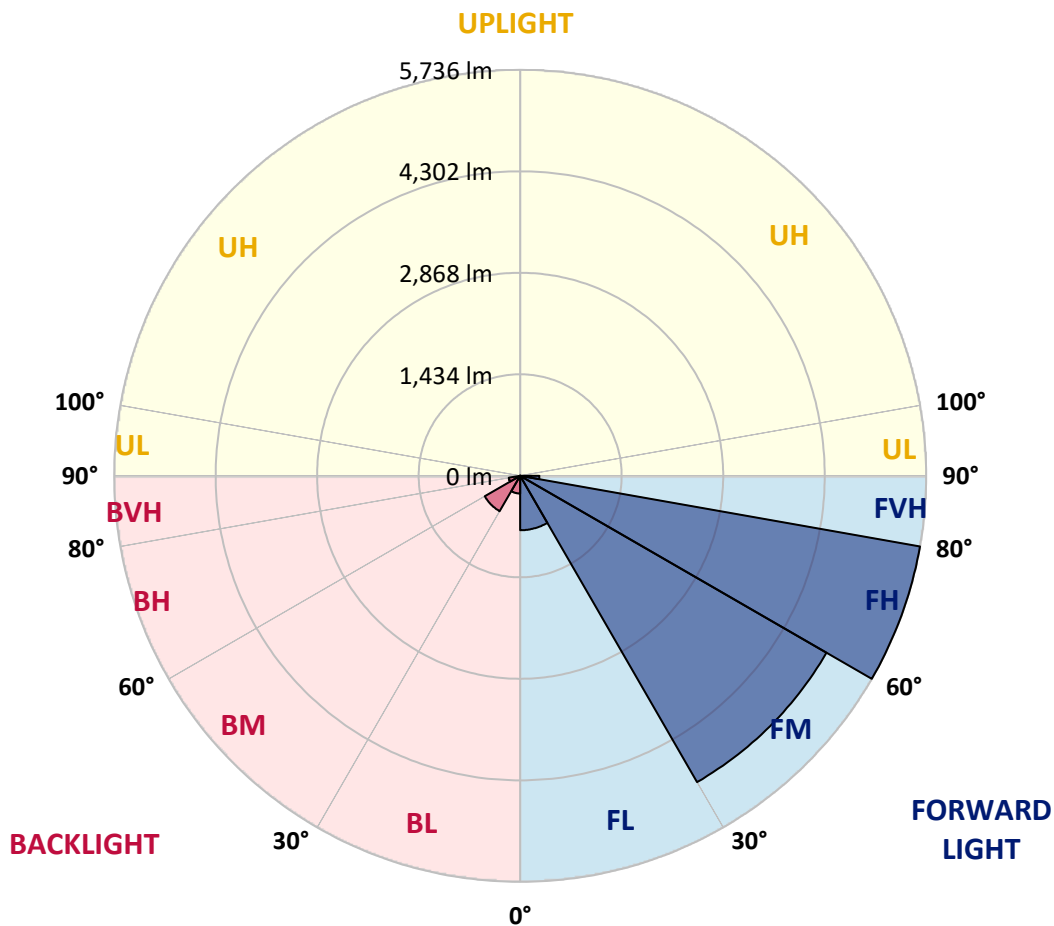
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	768.4	6.0			
FM (30°-60°)	4996.6	39.1			
FH (60°-80°)	5735.9	44.9			G3/7500
FVH (80°-90°)	272.2	2.1			G3/500
BL (0°-30°)	250.5	2.0	B1/500		
BM (30°-60°)	577.5	4.5	B1/1000		
BH (60°-80°)	163.3	1.3	B1/500		G1/500
BVH (80°-90°)	4.7	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-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	760.6	760.6	760.6	760.6	760.6	760.6	760.6	760.6	760.6	760.6	760.6
2.5°	968.0	930.1	868.5	873.0	900.6	906.4	914.7	892.9	873.6	839.6	905.7
5°	1240.1	1185.6	1150.9	1140.0	1124.0	1125.2	1086.1	1100.2	1096.4	1121.4	1151.6
7.5°	1393.6	1363.4	1319.7	1307.5	1248.5	1242.1	1193.9	1258.8	1265.2	1256.2	1305.6
10°	1454.5	1414.7	1419.9	1374.3	1344.8	1352.5	1360.2	1365.3	1373.7	1382.0	1321.7
12.5°	1490.5	1497.5	1567.5	1520.0	1549.5	1549.5	1601.5	1546.3	1548.3	1487.9	1498.2
15°	1652.2	1691.4	1659.9	1659.3	1627.2	1635.6	1695.9	1652.2	1674.7	1656.7	1587.4
17.5°	1855.1	1862.8	1803.1	1776.8	1805.7	1806.3	1780.6	1778.7	1700.4	1832.6	1748.5
20°	1919.9	1963.6	1878.8	1776.1	1896.2	1890.4	1888.5	1858.3	1728.0	1911.6	1842.2
22.5°	2096.4	2034.2	1976.4	1909.0	1955.9	1955.9	1948.8	1882.7	1832.0	1904.5	1934.0
25°	2151.6	2159.3	2084.2	2062.4	2063.7	2005.9	2000.8	1972.5	1923.8	2047.7	1988.6
27.5°	2341.6	2338.4	2158.1	2219.0	2141.4	2142.0	2000.2	2063.7	2072.0	2054.7	2120.8
30°	2528.4	2580.4	2308.3	2385.3	2303.8	2279.4	2140.7	2197.2	2212.0	2192.1	2275.5
32.5°	2766.6	2843.0	2578.5	2502.8	2378.2	2447.6	2351.9	2218.4	2291.6	2469.4	2516.2
35°	3018.8	3056.1	2774.3	2668.4	2527.8	2527.1	2523.9	2534.9	2615.7	2816.0	2855.8
37.5°	3472.0	3384.1	3129.2	2886.6	2918.1	2848.1	2799.3	2850.7	2934.8	3264.7	3434.8
40°	3724.9	3661.4	3302.6	3158.8	3002.8	3028.5	3160.7	3154.9	3378.9	3724.3	3979.1
42.5°	3970.8	3910.4	3557.4	3441.2	3240.9	3310.9	3368.7	3441.9	3900.8	4458.0	4597.9
45°	4189.7	4012.5	3763.4	3767.9	3663.9	3672.3	3774.4	3841.8	4505.5	5076.8	5175.0
47.5°	4321.9	4176.2	3937.4	3932.9	3926.5	3887.3	4368.1	4429.7	4987.5	5666.0	5675.0
50°	4508.0	4325.7	4116.5	4120.3	4268.6	4351.4	4925.3	4918.9	5452.9	6157.7	5950.4
52.5°	4739.8	4517.0	4286.6	4458.0	4687.1	4821.9	5287.9	5477.9	5952.9	6466.5	6058.2
55°	5036.3	4757.7	4535.6	4755.2	5255.2	5307.2	5642.9	6044.1	6497.9	6781.6	6092.9
57.5°	5384.2	5051.7	4872.0	5225.7	5724.4	5725.7	6159.6	6647.5	6832.3	6910.0	6053.7
60°	5759.1	5371.4	5190.4	5508.8	6241.8	6294.4	6734.1	6980.6	7171.9	6974.8	5983.8
62.5°	6089.0	5660.9	5520.3	5894.5	6809.2	6933.8	7234.8	7199.5	7417.1	7056.4	5806.0
65°	6481.9	6035.8	5943.3	6496.0	7550.0	7721.4	7797.1	7587.9	7499.3	6993.5	5343.1
67.5°	6870.9	6453.6	6451.1	7162.9	8521.2	8580.2	8500.6	8135.4	7403.6	6438.9	4495.2
70°	7145.0	6696.9	6865.7	7893.4	9403.8	9238.2	8903.1	8394.1	6713.0	4934.9	2936.7
72.5°	6887.6	6455.6	6836.2	8153.4	9512.9	9560.4	8670.1	7519.2	4987.5	2523.9	1063.0
75°	5234.0	4969.6	5935.6	7233.5	8446.1	8457.0	7236.7	5303.4	2455.9	685.5	294.0
77.5°	2636.3	2552.2	3757.0	5135.2	6162.2	6144.2	4972.1	2841.0	790.2	227.9	148.3
80°	1334.5	1267.1	1599.0	2770.4	3659.5	3686.4	2839.1	1272.2	398.6	123.9	102.7
82.5°	819.7	778.0	874.9	1253.6	1776.1	1819.1	1077.1	805.6	247.1	73.2	93.7
85°	158.5	166.9	502.6	627.8	709.3	692.6	319.0	663.1	74.5	43.6	68.0
87.5°	0.0	2.6	116.2	204.8	205.4	182.3	72.5	147.0	10.3	12.2	8.3
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°	760.6	760.6	760.6	760.6	760.6	760.6	760.6	760.6	760.6	760.6	760.6
2.5°	916.6	907.0	826.8	817.8	819.7	806.2	801.7	773.5	766.4	810.1	817.8
5°	1138.7	1074.5	1000.1	973.1	931.4	860.8	850.5	832.5	812.6	820.3	814.6
7.5°	1274.8	1189.4	1109.8	968.0	850.5	747.8	731.1	700.3	669.5	670.1	690.0
10°	1296.6	1224.7	1115.0	942.3	808.1	679.8	568.1	487.2	450.6	417.9	427.5
12.5°	1423.1	1356.3	1154.1	934.6	746.5	546.3	399.9	320.9	286.3	274.7	273.4
15°	1524.5	1471.9	1220.9	910.9	609.8	384.5	286.3	263.2	256.8	267.7	264.5
17.5°	1675.4	1580.3	1213.8	812.6	464.7	292.1	263.8	260.6	268.3	274.7	276.7
20°	1741.5	1604.7	1165.7	658.6	347.9	267.7	257.4	251.0	265.1	284.4	280.5
22.5°	1808.2	1646.5	1109.2	539.2	279.9	256.1	250.3	245.2	256.1	274.7	279.2
25°	1838.4	1713.2	1046.3	421.1	260.0	242.6	238.8	240.7	249.7	266.4	264.5
27.5°	1990.5	1720.9	926.3	332.5	251.6	233.0	233.0	237.5	237.5	260.0	258.0
30°	2085.5	1851.2	828.7	279.9	242.0	219.5	227.2	229.2	225.9	250.3	252.3
32.5°	2252.4	1887.2	733.7	256.8	226.6	217.6	216.3	217.6	220.2	243.9	244.6
35°	2509.2	2064.3	604.0	247.8	218.9	208.0	199.0	206.0	212.5	229.8	233.0
37.5°	3011.1	2246.0	492.3	240.7	215.0	199.0	195.8	194.5	206.0	225.9	232.4
40°	3417.5	2567.6	400.5	234.9	207.3	193.9	185.5	186.2	196.4	211.2	220.8
42.5°	3992.6	2800.0	339.6	225.9	196.4	182.9	173.3	179.1	183.6	199.0	205.4
45°	4472.7	2980.3	299.1	220.2	185.5	172.7	165.0	171.4	166.9	174.6	183.6
47.5°	4854.7	3137.6	269.0	206.0	178.4	166.9	157.3	155.3	147.6	149.6	157.9
50°	5064.6	3111.3	243.9	191.9	169.5	161.1	147.6	134.2	123.9	123.2	128.4
52.5°	5139.0	2970.7	223.4	179.7	158.5	148.3	132.9	114.3	104.0	100.8	105.3
55°	5159.6	2768.5	204.8	166.3	148.3	132.2	116.2	96.3	85.4	80.2	84.7
57.5°	5092.8	2457.2	186.8	153.4	136.1	116.8	99.5	79.0	68.7	62.3	66.1
60°	4927.8	2061.8	170.7	137.4	123.2	103.3	84.1	63.5	52.6	46.9	48.8
62.5°	4562.6	1616.3	153.4	122.6	109.8	90.5	70.6	50.1	39.8	34.7	35.3
65°	4006.7	1204.8	133.5	108.5	97.6	78.3	56.5	38.5	30.2	25.7	25.0
67.5°	3192.2	816.5	113.6	93.7	86.7	66.1	44.9	30.2	23.8	20.5	19.3
70°	1876.3	411.5	94.4	80.9	74.5	55.2	35.3	24.4	21.8	19.3	18.0
72.5°	618.8	177.8	73.8	66.8	61.6	44.3	27.6	22.5	21.2	18.6	17.3
75°	215.7	102.7	54.6	51.4	48.8	33.4	23.1	20.5	20.5	18.0	16.0
77.5°	141.2	79.6	40.4	37.2	36.6	24.4	19.9	19.3	18.0	14.8	12.2
80°	117.5	44.9	28.2	26.3	25.7	15.4	16.0	14.1	10.9	6.4	2.6
82.5°	108.5	27.0	14.8	16.0	14.8	5.8	9.0	7.7	5.8	2.6	0.0
85°	63.5	12.2	8.3	8.3	6.4	1.3	4.5	4.5	2.6	0.6	0.0
87.5°	7.1	5.8	4.5	4.5	3.2	0.0	1.9	1.3	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)