

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: P368610

Luminaire Tested: **MSA-SA4D-730-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368610
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-730-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23337 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

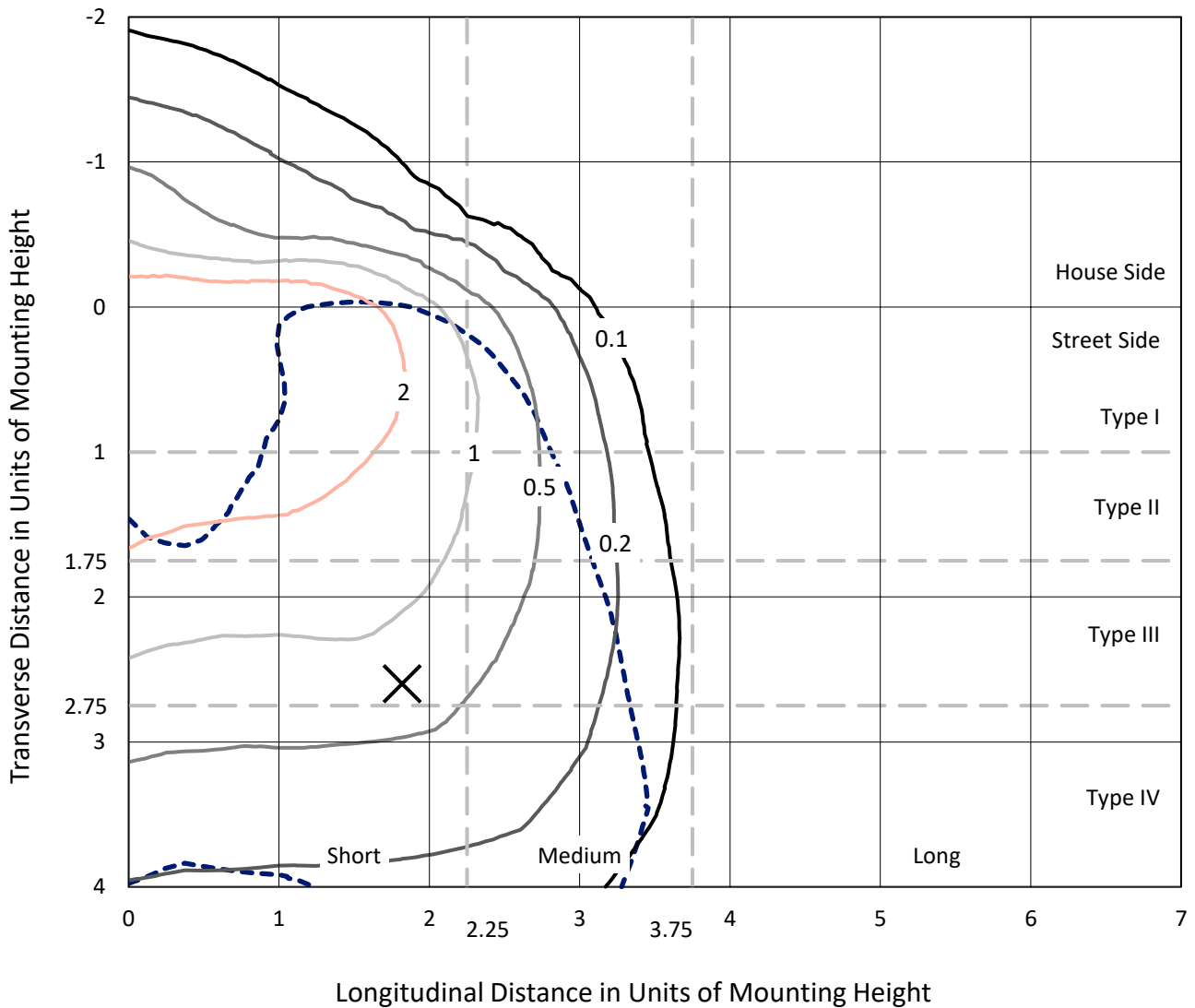
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

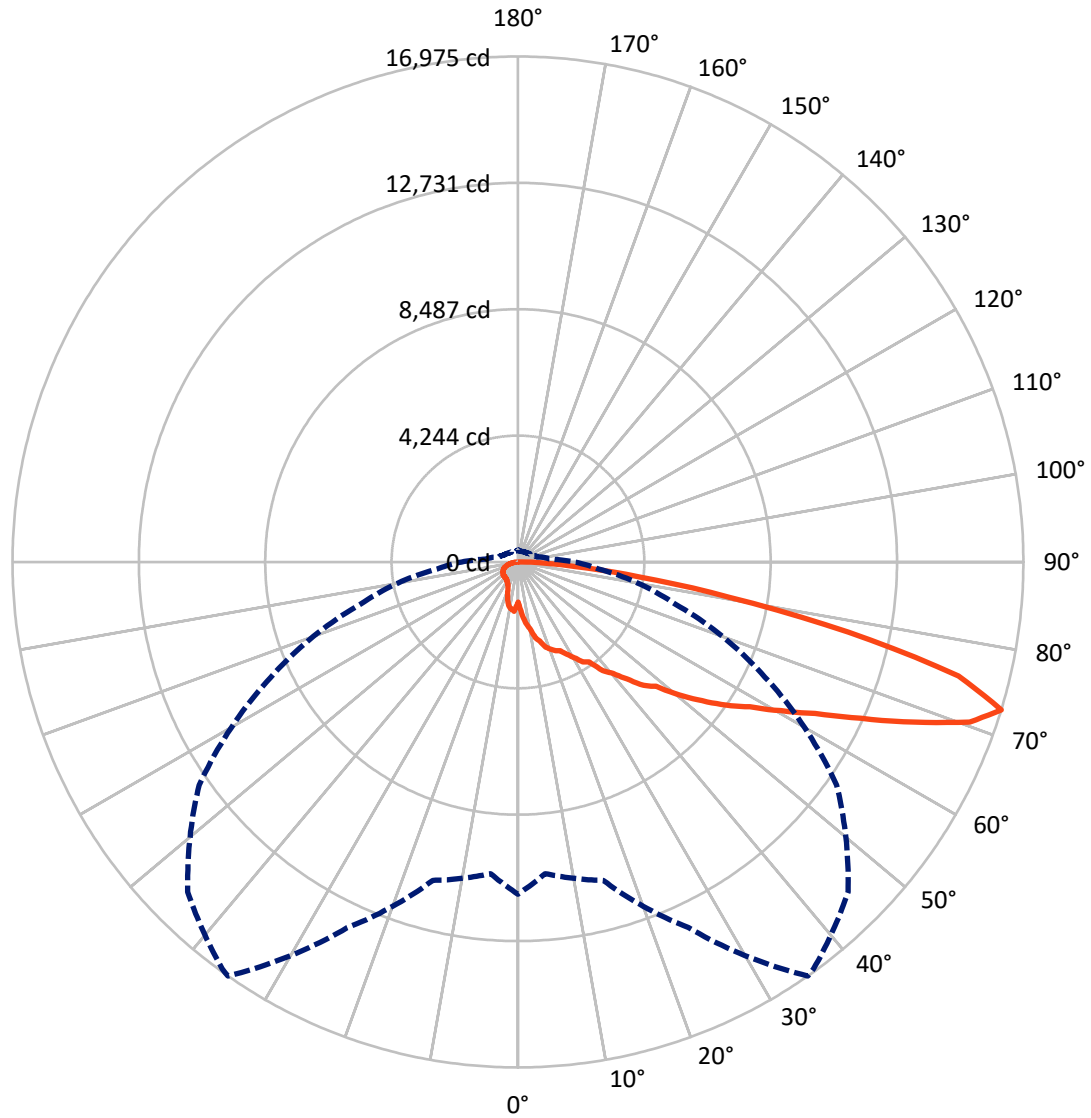
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 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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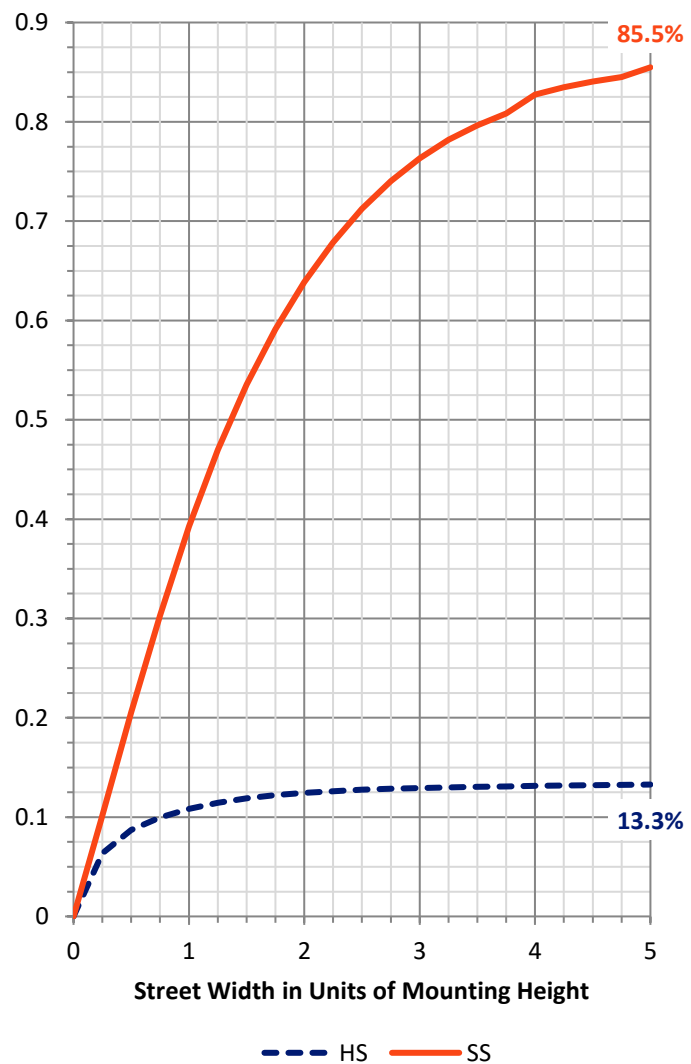
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3131.8	0.0	3131.8
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	20205.2	0.0	20205.2
	% Fixture	86.6	0.0	86.6
Total	Lumens	23337.0	0.0	23337.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.3	0.8
10°-20°	631.4	2.7
20°-30°	1097.1	4.7
30°-40°	1833.6	7.9
40°-50°	3182.4	13.6
50°-60°	4811.0	20.6
60°-70°	6232.6	26.7
70°-80°	4599.0	19.7
80°-90°	770.8	3.3
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°	23337.0	100.0
0°-180°	23337.0	100.0

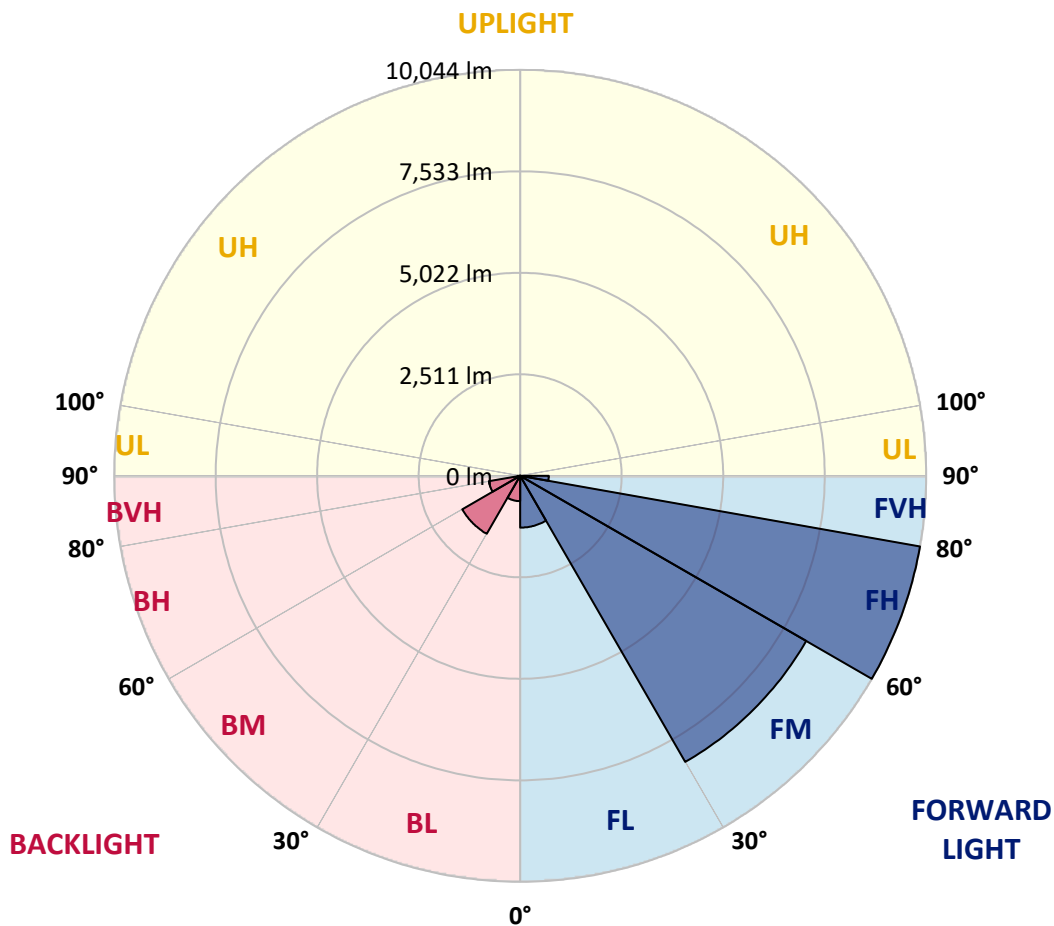


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1281.7	5.5			
FM (30°-60°)	8171.8	35.0			
FH (60°-80°)	10044.1	43.0			G4/12000
FVH (80°-90°)	707.7	3.0			G4/750
BL (0°-30°)	626.0	2.7	B2/1000		
BM (30°-60°)	1655.2	7.1	B2/2500		
BH (60°-80°)	787.5	3.4	B2/1000		G2/1000
BVH (80°-90°)	63.1	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7
2.5°	1682.3	1601.7	1531.9	1528.9	1593.7	1618.6	1608.6	1586.7	1560.8	1506.0	1625.6
5°	2107.6	1992.1	1970.2	1944.3	1885.5	1901.5	1805.8	1878.6	1901.5	1954.3	2033.9
7.5°	2358.7	2290.9	2238.1	2216.2	2114.6	2102.7	2031.9	2135.5	2179.4	2172.4	2290.9
10°	2457.3	2395.5	2399.5	2327.8	2294.9	2308.9	2316.8	2318.8	2345.7	2367.6	2307.9
12.5°	2508.1	2532.0	2619.6	2570.8	2612.6	2629.6	2713.2	2627.6	2630.6	2518.0	2579.8
15°	2764.0	2823.8	2773.0	2771.0	2758.1	2786.0	2857.7	2799.9	2844.7	2808.9	2729.2
17.5°	3072.8	3090.8	2993.1	2953.3	3005.1	2996.1	2978.2	2987.2	2875.6	3082.8	2985.2
20°	3167.4	3238.2	3109.7	2953.3	3124.6	3147.5	3143.5	3104.7	2913.5	3212.3	3117.6
22.5°	3442.4	3346.7	3245.1	3145.5	3233.2	3246.1	3224.2	3131.6	3067.8	3181.4	3256.1
25°	3566.9	3544.0	3414.5	3402.5	3305.9	3260.1	3297.9	3271.0	3208.3	3410.5	3327.8
27.5°	3851.7	3824.8	3527.0	3649.5	3509.1	3497.1	3296.9	3386.6	3449.3	3434.4	3557.9
30°	4174.5	4205.3	3770.1	3892.6	3730.2	3708.3	3507.1	3620.7	3663.5	3677.4	3831.8
32.5°	4533.0	4617.7	4185.4	4084.8	3998.2	4013.1	3842.8	3635.6	3801.9	4127.6	4194.4
35°	4921.5	4956.4	4503.2	4351.8	4125.7	4109.7	4112.7	4138.6	4306.9	4678.5	4730.3
37.5°	5639.7	5478.3	5080.9	4697.4	4621.7	4473.3	4573.9	4653.6	4821.9	5391.6	5608.8
40°	6081.9	5962.4	5356.8	5134.7	4925.5	4939.4	5127.7	5126.7	5524.1	6111.8	6443.5
42.5°	6491.3	6360.8	5790.1	5566.9	5368.7	5417.5	5471.3	5565.9	6327.9	7275.2	7426.6
45°	6821.0	6535.1	6124.7	6074.9	5911.6	5846.8	6074.9	6226.3	7289.1	8216.4	8304.1
47.5°	7045.1	6810.0	6408.6	6364.8	6244.3	6402.6	7025.2	7122.8	8034.2	9161.7	9154.7
50°	7385.7	7064.0	6701.4	6678.5	7018.2	7102.9	7861.8	7851.9	8759.3	9946.6	9782.2
52.5°	7778.2	7372.8	6979.3	7225.4	7743.3	7785.1	8443.5	8711.5	9551.1	10703.6	10274.3
55°	8229.4	7776.2	7395.7	7724.4	8495.3	8371.8	9038.2	9692.6	10542.2	11501.4	10629.9
57.5°	8788.2	8238.4	7930.6	8430.6	9181.6	9291.2	9889.8	10713.5	11340.1	11997.5	10888.8
60°	9377.8	8732.4	8450.5	8926.6	10142.8	10268.3	10854.0	11562.2	12234.5	12464.6	10840.0
62.5°	9940.6	9242.4	8987.4	9575.1	11208.6	11519.3	11951.6	12402.8	12978.6	12578.2	10249.4
65°	10567.1	9867.9	9707.5	10589.0	12653.9	12962.6	13527.4	13391.9	13233.6	12175.7	9272.3
67.5°	11230.5	10520.3	10550.2	11765.4	14358.1	14410.9	15278.5	14378.0	12933.7	11110.0	7631.8
70°	11587.1	10860.0	11167.7	13019.4	16092.2	16016.5	16193.8	14643.0	11711.6	8782.2	5260.2
72.5°	11154.8	10506.4	11070.1	13547.3	16974.7	16893.1	15679.9	13070.2	9156.7	5461.4	2727.2
75°	9444.6	8819.1	9681.6	12076.1	15281.4	15357.1	13344.1	9719.5	5242.2	2196.3	1132.5
77.5°	6417.6	6094.8	6833.9	9001.3	11351.0	11613.0	9900.8	5683.5	2201.3	909.4	685.3
80°	3391.6	3238.2	3784.0	5185.5	7187.5	7382.7	5821.9	2830.8	1127.5	588.7	489.1
82.5°	1842.7	1778.0	2070.8	2666.4	4083.8	4254.1	3019.0	1880.5	760.0	368.5	298.8
85°	1238.1	1213.2	1407.4	1432.3	1931.3	1987.1	1581.7	1448.3	456.2	180.3	197.2
87.5°	619.5	594.6	741.1	654.4	737.1	738.1	725.1	924.3	115.5	59.8	35.9
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°	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7	1348.7
2.5°	1627.6	1592.7	1472.2	1471.2	1489.1	1477.1	1486.1	1437.3	1416.4	1512.0	1507.0
5°	2023.0	1918.4	1817.8	1782.9	1742.1	1653.4	1658.4	1659.4	1644.5	1701.3	1705.2
7.5°	2255.1	2129.6	2036.9	1851.7	1706.2	1592.7	1607.6	1624.6	1607.6	1683.3	1711.2
10°	2288.9	2189.3	2078.8	1872.6	1776.0	1673.4	1569.8	1478.1	1467.2	1432.3	1443.3
12.5°	2490.1	2407.5	2176.4	1950.3	1837.7	1680.3	1491.1	1386.5	1298.9	1313.8	1285.9
15°	2655.5	2596.7	2319.8	2024.0	1755.0	1559.8	1358.6	1215.2	1136.5	1127.5	1099.6
17.5°	2879.6	2795.9	2332.8	1973.2	1648.5	1414.4	1187.3	1024.9	991.1	977.1	963.2
20°	2987.2	2836.8	2285.9	1813.8	1524.0	1241.1	1018.0	878.5	868.6	893.5	888.5
22.5°	3080.8	2870.6	2244.1	1717.2	1329.7	1065.8	902.4	810.8	799.8	831.7	837.7
25°	3135.6	2967.2	2198.3	1618.6	1209.2	935.3	815.8	764.0	766.0	807.8	802.8
27.5°	3382.6	3001.1	2082.7	1502.0	1070.8	838.7	773.9	747.0	736.1	793.9	798.8
30°	3538.0	3222.2	2056.8	1378.5	968.2	768.0	736.1	725.1	723.1	792.9	797.8
32.5°	3826.8	3295.9	2068.8	1244.1	875.5	746.0	708.2	707.2	727.1	793.9	801.8
35°	4227.2	3606.7	2011.0	1167.4	824.7	712.2	686.3	694.2	728.1	800.8	811.8
37.5°	5008.2	3899.5	2029.0	1095.7	807.8	701.2	680.3	685.3	740.1	818.8	848.6
40°	5626.7	4430.4	2001.1	1059.8	784.9	699.2	667.4	687.3	739.1	828.7	855.6
42.5°	6523.1	4853.8	2004.1	1023.9	783.9	691.3	665.4	689.3	737.1	819.8	856.6
45°	7292.1	5233.3	2046.9	1003.0	773.9	704.2	662.4	692.3	724.1	787.9	828.7
47.5°	7922.6	5656.6	2090.7	983.1	769.9	716.2	659.4	671.3	702.2	752.0	788.9
50°	8436.6	5954.4	2146.5	979.1	769.9	710.2	651.4	650.4	676.3	716.2	751.0
52.5°	8837.0	6164.6	2184.3	984.1	769.9	687.3	641.5	633.5	649.4	678.3	713.2
55°	9126.8	6229.3	2153.5	997.0	769.0	666.4	623.5	616.6	624.5	644.4	677.3
57.5°	9243.4	6059.0	1969.2	974.1	769.0	651.4	601.6	593.6	601.6	616.6	649.4
60°	8951.5	5511.2	1703.3	915.4	754.0	631.5	576.7	571.7	583.7	596.6	628.5
62.5°	8219.4	4783.0	1419.4	845.6	723.1	614.6	552.8	553.8	572.7	590.7	622.5
65°	7081.9	3902.5	1183.3	774.9	684.3	587.7	527.9	534.9	561.8	585.7	617.6
67.5°	5572.9	2891.5	996.1	706.2	629.5	543.8	500.0	502.0	520.9	543.8	574.7
70°	3725.2	1839.7	818.8	625.5	557.8	487.1	457.2	450.2	445.2	465.2	492.1
72.5°	1889.5	1086.7	672.3	534.9	480.1	425.3	402.4	384.5	370.5	382.5	403.4
75°	990.1	760.0	542.8	444.2	396.4	361.6	344.6	320.7	310.8	317.7	332.7
77.5°	700.2	594.6	439.3	351.6	322.7	286.9	289.9	265.0	257.0	261.0	276.9
80°	537.9	471.1	337.7	265.9	249.0	214.2	224.1	209.2	199.2	197.2	209.2
82.5°	366.5	354.6	240.0	186.3	174.3	149.4	163.4	157.4	144.4	136.5	142.4
85°	247.0	235.1	146.4	107.6	102.6	77.7	99.6	95.6	84.7	72.7	73.7
87.5°	42.8	78.7	41.8	26.9	24.9	9.0	22.9	21.9	19.9	10.0	8.0
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)