

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: P368578

Luminaire Tested: **MSA-SA4C-830-U-T4W**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368578
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4C-830-U-T4W
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19387 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G4

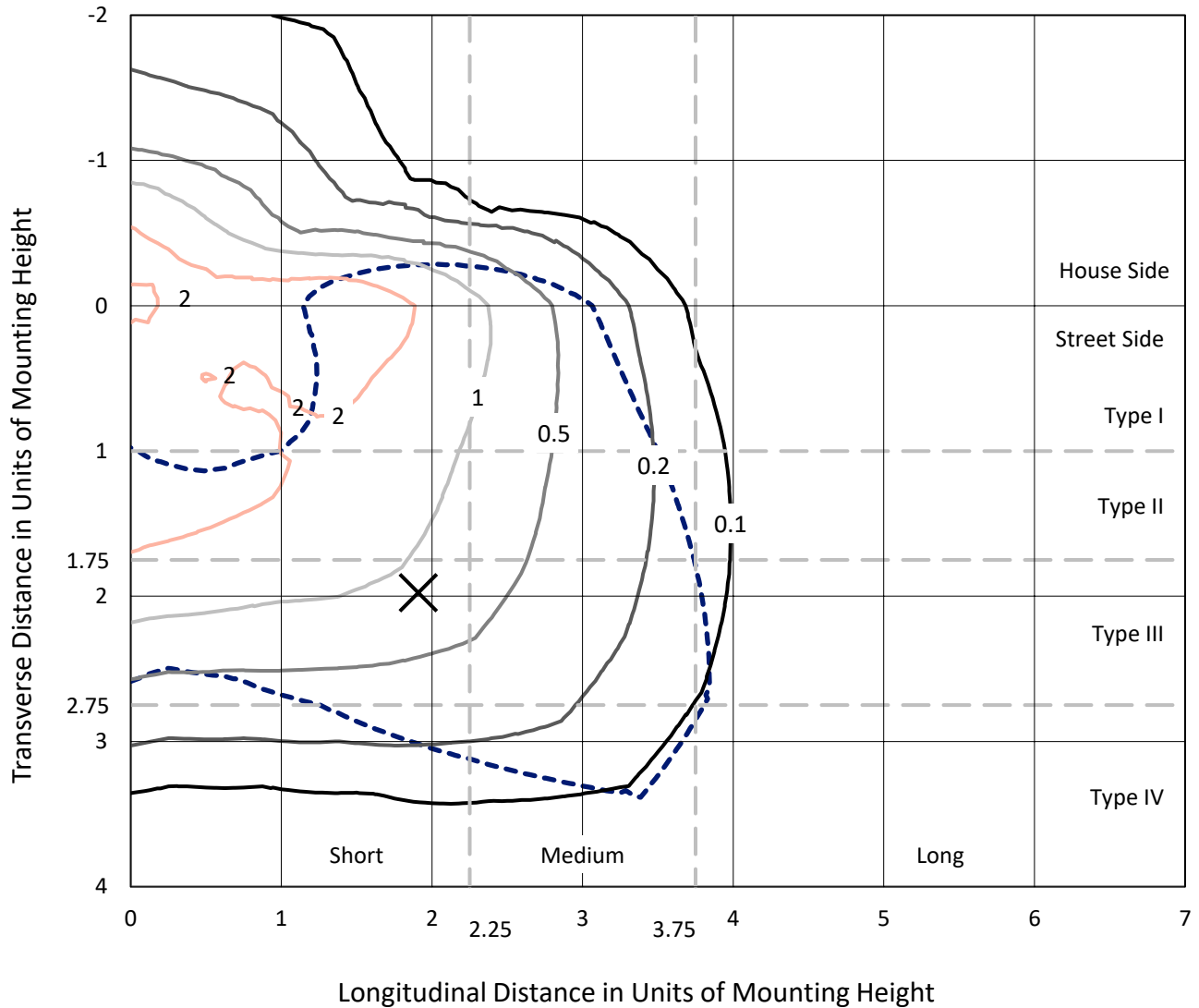
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

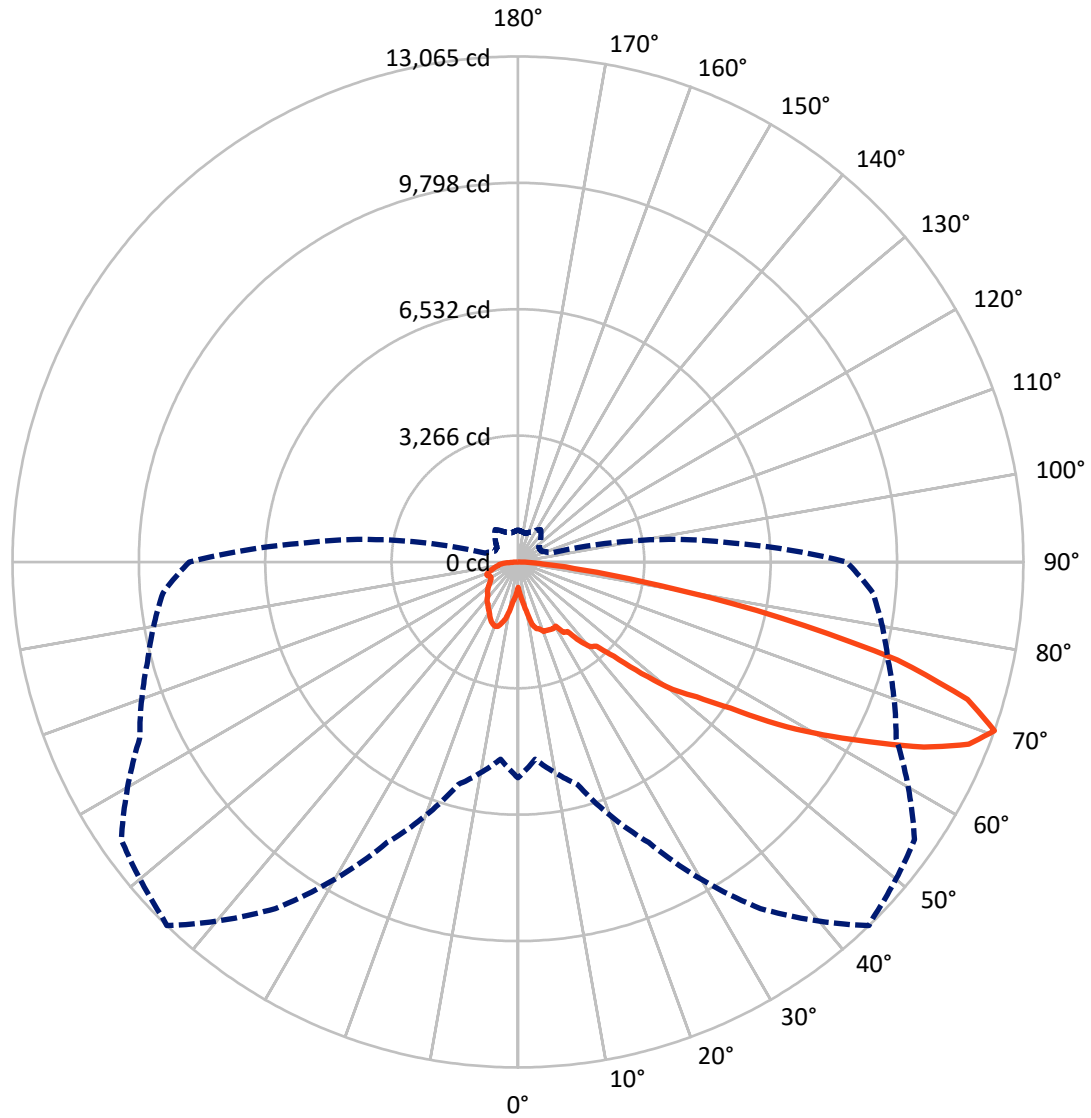
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical



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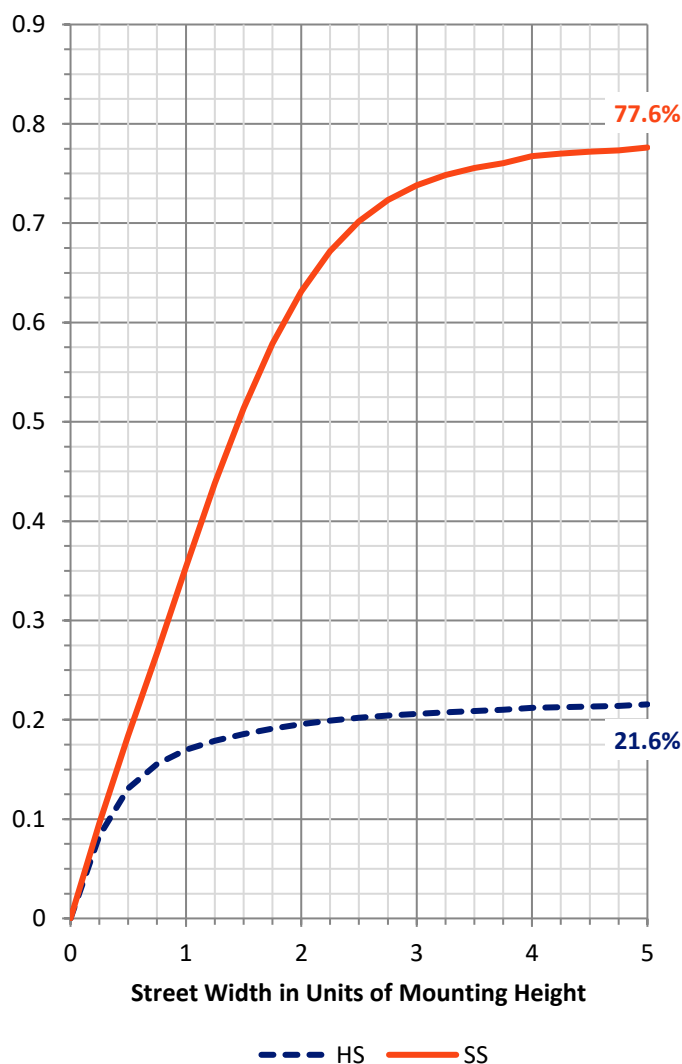
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4277.5	0.0	4277.5
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	15109.5	0.0	15109.5
	% Fixture	77.9	0.0	77.9
Total	Lumens	19387.0	0.0	19387.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.3	0.5
10°-20°	475.8	2.5
20°-30°	889.1	4.6
30°-40°	1427.2	7.4
40°-50°	2409.0	12.4
50°-60°	4292.7	22.1
60°-70°	5871.9	30.3
70°-80°	3453.0	17.8
80°-90°	464.9	2.4
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°	19387.0	100.0
0°-180°	19387.0	100.0

Coefficient of Utilization



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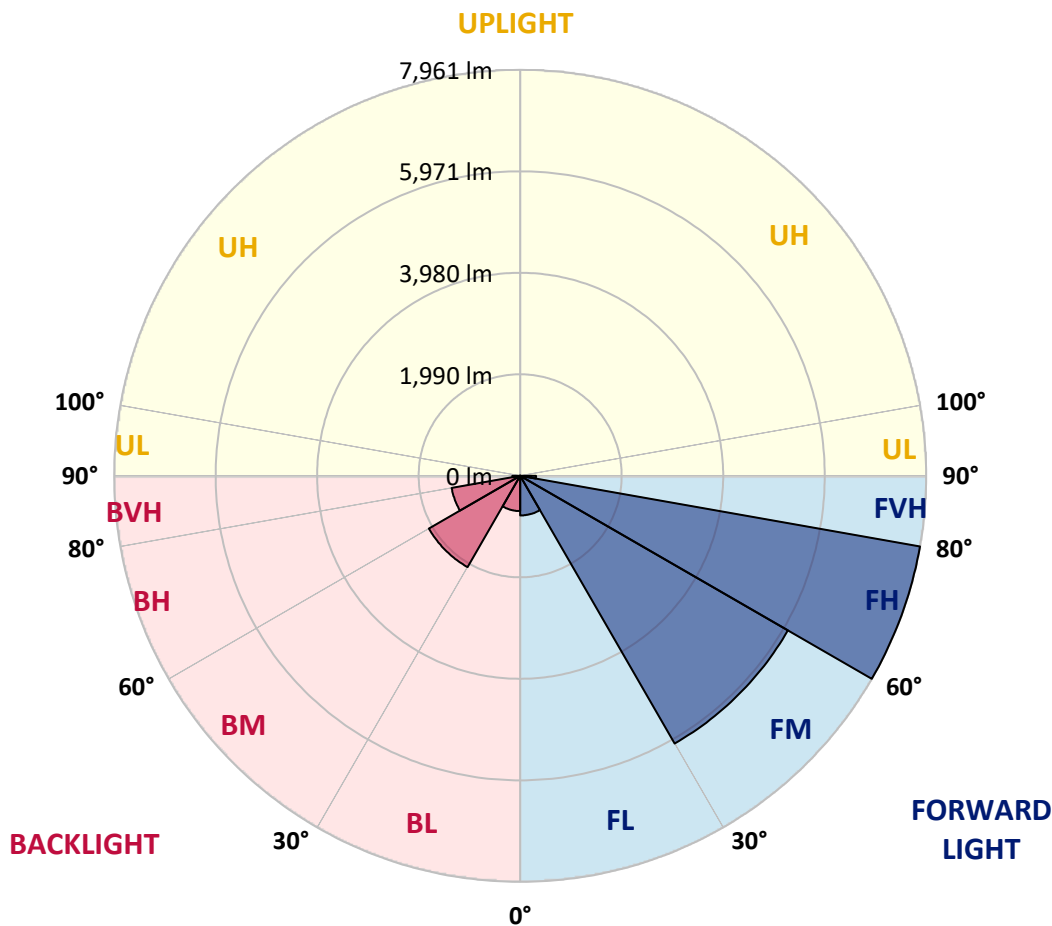
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	776.9	4.0			
FM (30°-60°)	6061.8	31.3			
FH (60°-80°)	7960.9	41.1			G4/12000
FVH (80°-90°)	309.9	1.6			G3/500
BL (0°-30°)	691.3	3.6	B2/1000		
BM (30°-60°)	2067.1	10.7	B2/2500		
BH (60°-80°)	1364.0	7.0	B3/2500		G3/2500
BVH (80°-90°)	155.1	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	659.0	659.0	659.0	659.0	659.0	659.0	659.0	659.0	659.0	659.0	659.0
2.5°	799.7	783.8	745.6	758.4	774.3	780.6	779.0	777.4	752.8	744.0	787.8
5°	1086.7	1051.7	1023.9	1012.7	976.2	947.5	930.1	976.2	969.0	980.9	1011.1
7.5°	1356.9	1334.7	1271.9	1249.6	1174.9	1125.6	1120.0	1156.6	1166.1	1147.1	1198.7
10°	1531.0	1492.9	1480.1	1426.9	1375.2	1367.3	1362.5	1345.8	1322.7	1321.2	1275.1
12.5°	1666.2	1686.0	1696.4	1635.2	1636.7	1665.4	1650.3	1582.7	1543.7	1475.4	1480.9
15°	1908.6	1937.2	1855.3	1816.4	1741.7	1784.6	1779.0	1722.6	1717.0	1672.5	1620.8
17.5°	2120.1	2132.8	1996.0	1907.0	1881.6	1819.6	1836.3	1837.9	1764.7	1844.2	1798.1
20°	2137.5	2182.9	2025.5	1848.2	1924.5	1916.6	1918.9	1903.0	1806.9	1938.0	1920.5
22.5°	2223.4	2154.2	2012.7	1883.2	1903.0	1915.0	1926.1	1907.0	1901.5	1974.6	2027.8
25°	2207.5	2185.2	2042.2	1932.5	1934.8	1937.2	1942.8	2000.0	1993.7	2093.0	2120.8
27.5°	2356.1	2322.0	2050.9	2023.9	1961.9	1948.4	1910.2	2029.4	2122.4	2120.1	2273.5
30°	2639.1	2604.2	2254.4	2175.7	2063.6	1925.3	1998.4	2157.4	2230.5	2255.2	2449.9
32.5°	3081.1	3138.3	2655.0	2337.9	2198.8	2168.5	2160.6	2144.7	2325.9	2447.6	2624.8
35°	3715.5	3670.2	3127.2	2685.2	2341.0	2211.5	2229.0	2325.9	2541.4	2620.1	2783.8
37.5°	4442.0	4348.2	3732.2	3078.7	2751.2	2589.1	2531.0	2624.8	2672.5	2734.5	3069.2
40°	5180.5	4951.6	4326.0	3596.2	2997.6	2875.2	2824.4	2709.1	2821.2	2946.8	3372.1
42.5°	5893.5	5716.3	4972.2	4213.9	3412.6	2976.2	2948.4	2835.5	3182.9	3315.6	3809.3
45°	6640.8	6229.8	5634.4	4911.0	4019.1	3471.4	3430.1	3227.4	3672.5	3949.2	4426.1
47.5°	7143.2	6762.4	6240.9	5477.0	4527.1	4299.7	4221.0	3874.4	4278.3	4637.6	5379.2
50°	7618.5	7226.6	6678.9	6096.3	5446.8	5185.3	5017.5	4440.4	5032.6	5617.7	6601.0
52.5°	8299.0	7948.4	7187.7	6720.3	6434.9	5791.8	5667.0	5349.8	5915.0	6704.4	7936.5
55°	9026.3	8548.6	7859.4	7600.2	7485.0	6661.4	6559.7	6357.8	7089.9	7816.5	9234.6
57.5°	9347.5	8849.1	8469.1	8314.1	8304.5	7925.4	7808.5	7667.8	8291.0	8770.4	10456.4
60°	9602.6	9067.7	8915.8	9002.5	9317.3	9067.7	8915.8	8791.8	9268.8	9713.1	11453.2
62.5°	9555.7	9019.2	9097.1	9361.0	10164.7	10237.8	10120.9	9820.5	10237.8	10485.8	12024.8
65°	8799.0	8303.0	8756.9	9383.3	10952.4	11536.7	11530.3	10744.2	10888.8	10888.8	11964.4
67.5°	7473.1	6959.5	7702.8	9186.9	11496.9	12566.1	12567.7	11723.5	10948.5	10848.3	11029.5
70°	5580.3	5115.3	5950.8	8000.9	10934.9	13064.5	12992.2	12513.7	10784.7	9909.5	9213.1
72.5°	3333.1	3032.6	3801.3	5824.4	9327.6	12148.0	12340.4	11603.5	9872.9	8240.9	6585.9
75°	1513.5	1383.2	1786.2	3345.8	6659.1	10132.9	10341.9	9792.6	7841.9	5926.9	3806.1
77.5°	647.9	612.9	779.8	1484.1	3671.7	6929.3	7357.8	6998.5	5313.3	3444.4	1683.6
80°	416.5	394.3	479.3	713.8	1705.1	3744.1	4112.9	3978.6	2706.7	1339.4	593.0
82.5°	248.8	241.7	320.4	448.3	930.1	1647.9	1856.9	1906.2	1124.0	601.0	339.4
85°	135.9	137.5	175.7	271.9	558.0	641.5	686.8	747.2	529.4	348.2	164.5
87.5°	45.3	52.5	70.7	110.5	198.7	181.2	182.0	211.4	223.4	144.7	52.5
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°	659.0	659.0	659.0	659.0	659.0	659.0	659.0	659.0	659.0	659.0	659.0
2.5°	794.9	780.6	744.0	746.4	759.9	763.1	767.1	744.0	739.3	783.0	787.0
5°	1015.9	969.0	947.5	940.4	919.7	912.6	950.7	968.2	985.7	1019.9	1036.6
7.5°	1193.2	1140.7	1101.8	1066.0	1035.8	1018.3	1082.7	1132.0	1162.2	1232.1	1263.9
10°	1274.3	1228.9	1214.6	1186.0	1209.1	1261.5	1273.5	1275.1	1341.8	1340.2	1353.8
12.5°	1435.6	1406.2	1359.3	1369.6	1430.1	1484.1	1469.0	1492.1	1515.9	1573.1	1546.9
15°	1582.7	1574.7	1531.0	1538.2	1550.1	1617.7	1626.4	1649.5	1686.0	1731.3	1700.3
17.5°	1763.9	1760.8	1654.2	1644.7	1672.5	1738.5	1717.8	1677.3	1798.1	1846.6	1833.9
20°	1887.1	1863.3	1726.6	1686.0	1756.8	1765.5	1741.7	1677.3	1782.2	1887.9	1916.6
22.5°	1989.7	1961.9	1821.2	1741.7	1727.4	1731.3	1731.3	1719.4	1771.1	1857.7	1856.9
25°	2072.4	2098.6	1919.7	1843.4	1767.1	1671.7	1659.8	1670.1	1699.5	1866.5	1860.9
27.5°	2279.8	2207.5	1953.1	1895.9	1739.3	1589.0	1621.6	1637.5	1647.1	1829.9	1860.1
30°	2415.0	2437.2	2072.4	1926.9	1698.7	1496.8	1508.0	1554.1	1609.7	1825.9	1834.7
32.5°	2597.0	2549.3	2258.4	1875.2	1590.6	1441.2	1420.5	1482.5	1565.2	1761.5	1785.4
35°	2766.3	2822.8	2337.1	1865.7	1515.1	1357.7	1380.0	1401.4	1487.3	1690.0	1717.8
37.5°	3163.8	3035.0	2558.1	1819.6	1452.3	1315.6	1291.7	1324.3	1397.5	1554.1	1618.5
40°	3465.9	3473.8	2605.8	1761.5	1332.3	1255.2	1204.3	1236.9	1267.9	1392.7	1420.5
42.5°	4032.6	3859.3	2722.6	1634.4	1256.8	1164.6	1135.9	1150.3	1155.0	1207.5	1253.6
45°	4753.6	4347.4	2768.7	1463.4	1157.4	1127.2	1069.2	1062.0	1035.8	1042.9	1083.5
47.5°	5751.3	5109.0	2735.3	1281.4	1069.2	1078.7	995.2	962.6	926.1	934.8	973.0
50°	7041.4	6081.9	2732.9	1127.2	1008.8	1015.1	946.8	887.9	851.4	869.6	903.0
52.5°	8489.0	7058.1	2744.1	1021.5	942.8	939.6	915.0	843.4	814.0	833.1	871.2
55°	9873.7	7897.5	2826.7	954.7	874.4	880.0	889.5	829.1	796.5	814.0	853.7
57.5°	11078.8	8560.5	2795.7	884.0	810.8	836.3	861.7	809.2	784.6	810.0	849.8
60°	11921.4	8868.1	2550.9	816.4	763.9	798.9	848.2	806.8	803.7	858.5	906.2
62.5°	12229.1	8754.5	2073.9	763.1	736.1	794.1	879.2	859.3	862.5	930.1	996.0
65°	11779.9	8156.7	1546.9	728.9	714.6	817.2	950.7	890.3	846.6	902.2	962.6
67.5°	10502.5	7093.9	1130.4	699.5	690.0	853.7	1016.7	887.1	806.1	862.5	911.8
70°	8496.9	5599.4	875.2	662.2	657.4	829.1	1023.1	863.3	762.3	798.9	826.7
72.5°	5822.0	3833.9	725.0	626.4	601.0	734.5	971.4	810.0	709.9	731.3	754.4
75°	3253.6	2151.9	609.7	581.9	526.2	654.2	911.0	778.2	670.9	677.3	709.1
77.5°	1460.3	930.9	517.5	523.1	458.7	578.7	832.3	727.4	611.3	597.0	628.8
80°	552.5	453.9	419.7	442.0	385.5	501.6	750.4	681.2	548.5	530.2	548.5
82.5°	320.4	275.0	311.6	340.2	306.0	461.1	716.2	639.1	483.3	437.2	453.1
85°	148.7	142.3	186.8	221.0	213.8	359.3	612.9	480.9	344.2	290.9	321.9
87.5°	39.0	43.7	66.0	77.9	79.5	123.2	236.1	178.9	134.3	101.7	97.8
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)