

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: P368430

Luminaire Tested: **MSA-SA4B-830-U-SL2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368430
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-830-U-SL2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15337 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G3

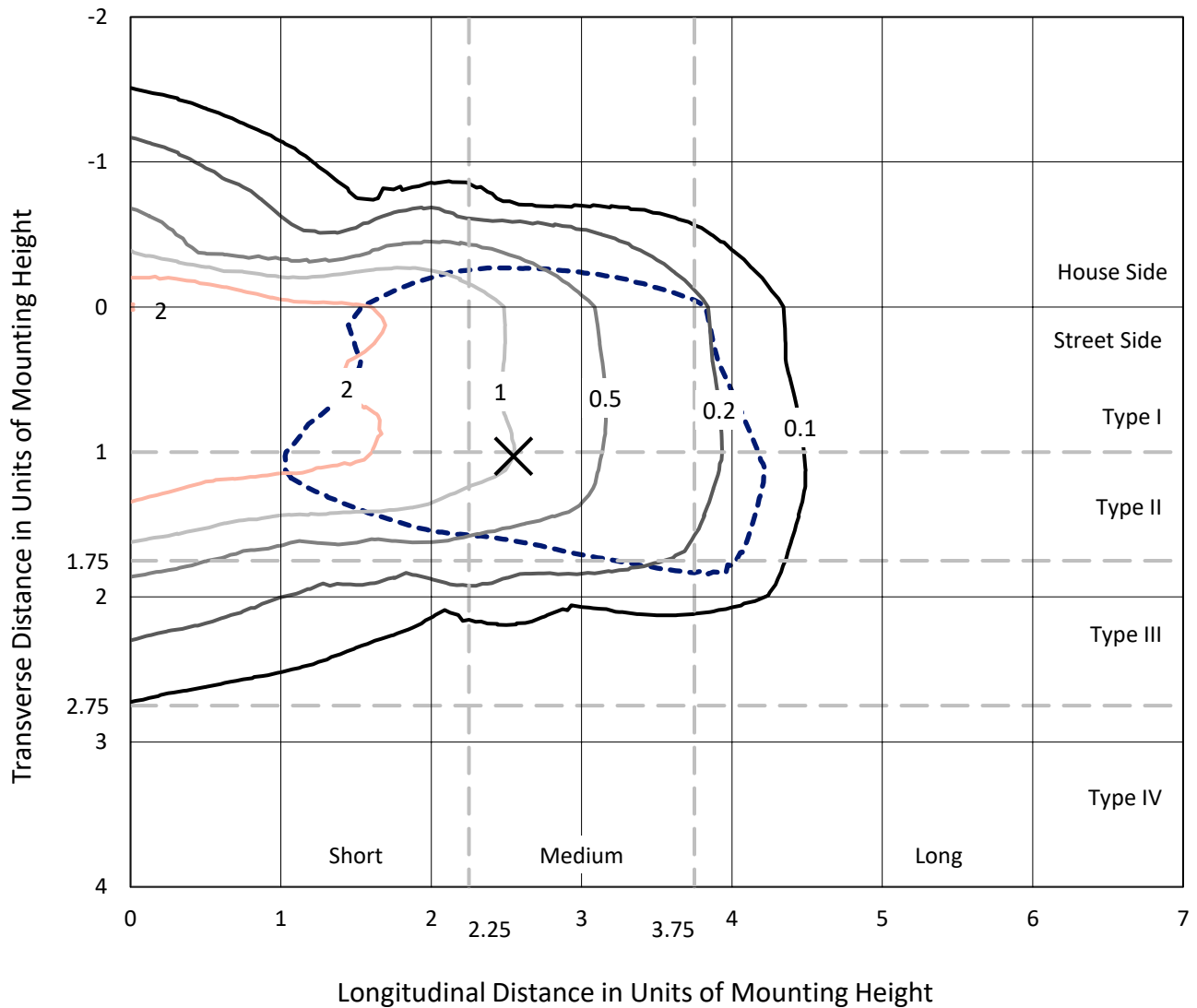
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

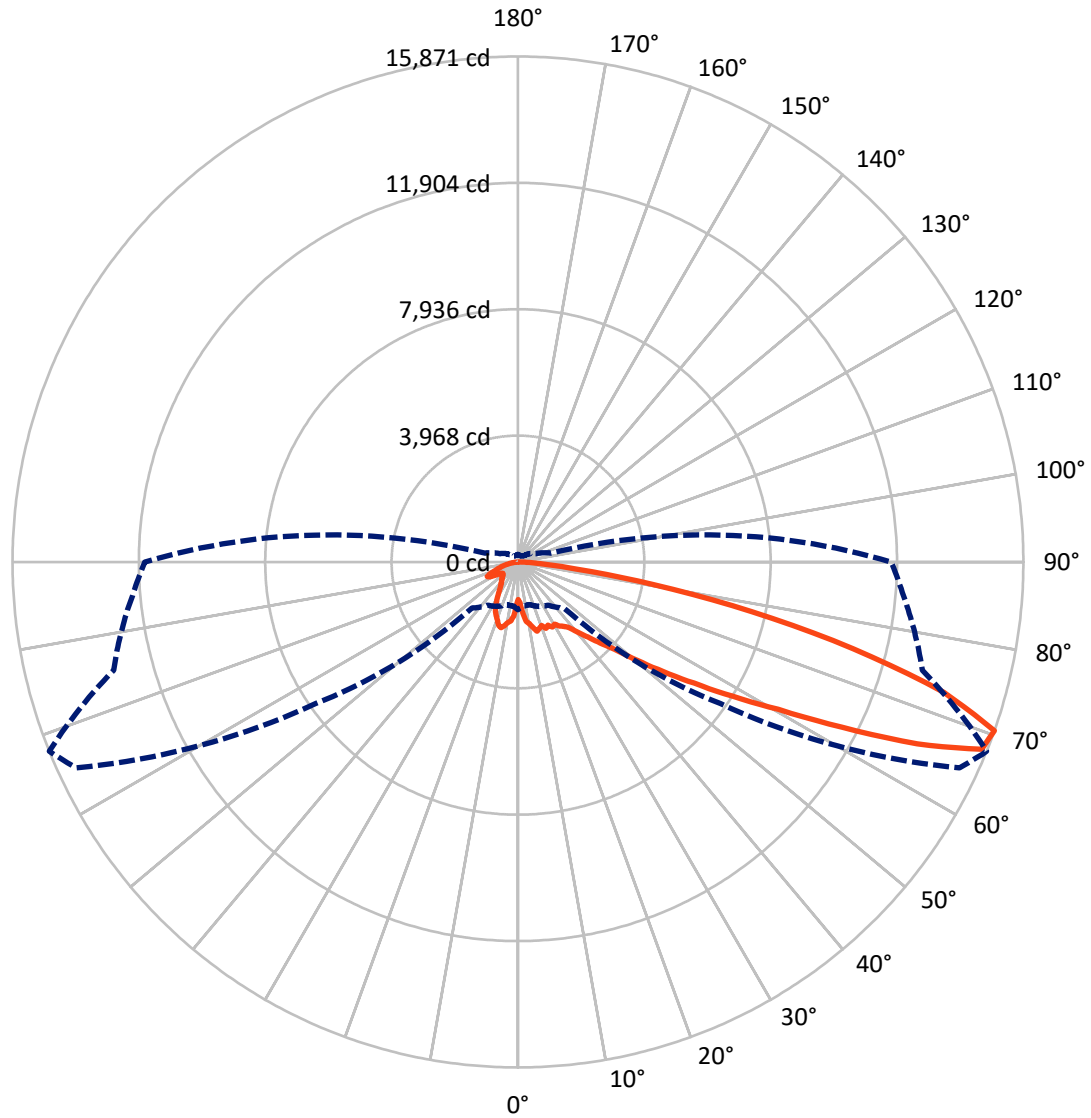
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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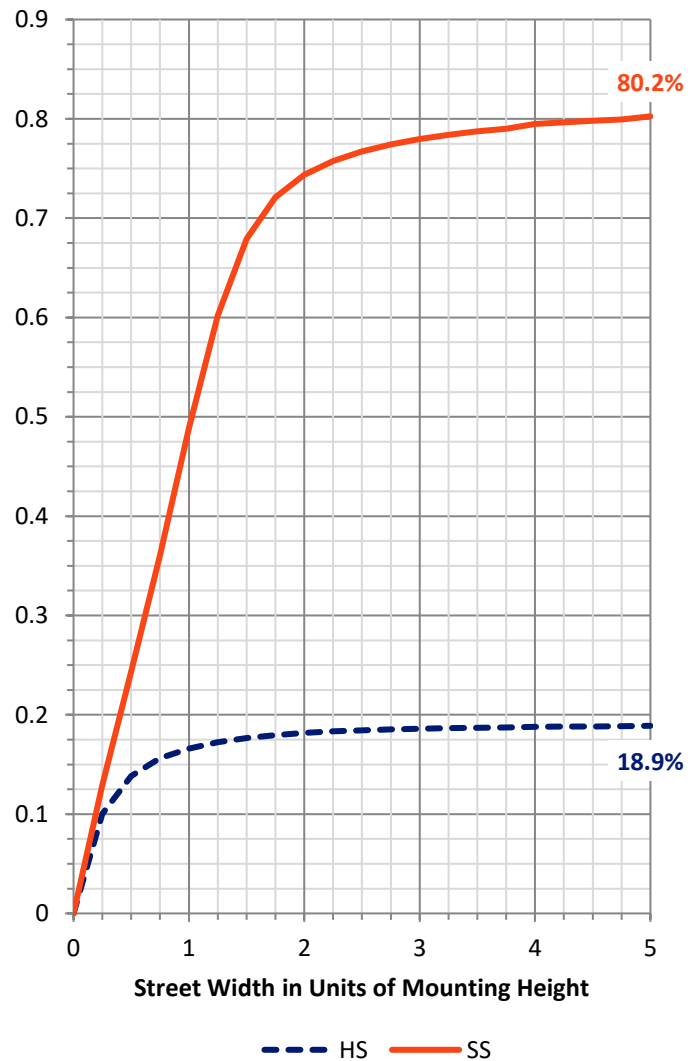
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2928.2	0.0	2928.2
	% Fixture	19.1	0.0	19.1
Street Side	Lumens	12408.8	0.0	12408.8
	% Fixture	80.9	0.0	80.9
Total	Lumens	15337.0	0.0	15337.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.0	1.0
10°-20°	511.9	3.3
20°-30°	778.7	5.1
30°-40°	1189.4	7.8
40°-50°	2045.1	13.3
50°-60°	3385.0	22.1
60°-70°	4173.3	27.2
70°-80°	2680.8	17.5
80°-90°	415.8	2.7
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°	15337.0	100.0
0°-180°	15337.0	100.0



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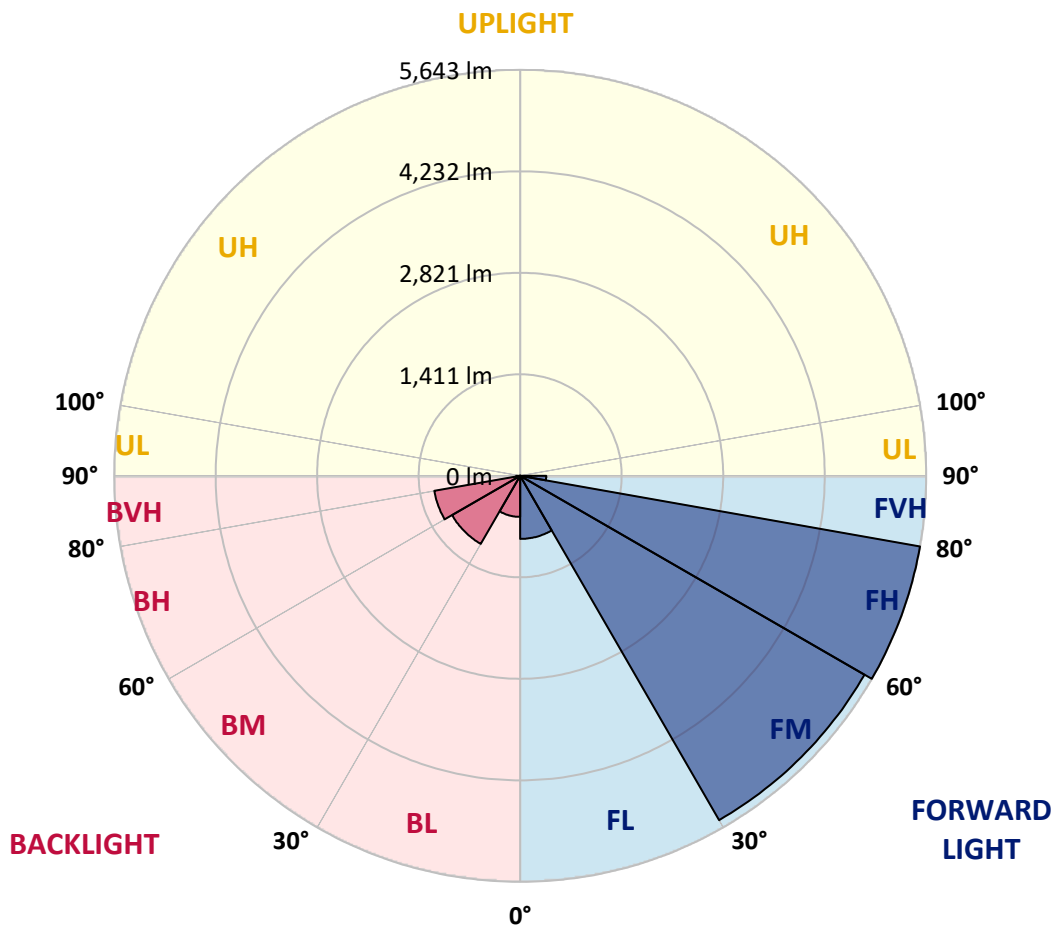
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	877.0	5.7			
FM (30°-60°)	5526.5	36.0			
FH (60°-80°)	5642.8	36.8			G3/7500
FVH (80°-90°)	362.5	2.4			G3/500
BL (0°-30°)	570.6	3.7	B2/1000		
BM (30°-60°)	1093.0	7.1	B2/2500		
BH (60°-80°)	1211.3	7.9	B3/2500		G3/2500
BVH (80°-90°)	53.4	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9
2.5°	1351.2	1296.6	1241.4	1268.4	1311.4	1349.3	1341.5	1346.0	1294.0	1287.0	1423.7
5°	1591.9	1498.2	1496.2	1497.5	1501.4	1457.7	1564.3	1619.5	1631.7	1688.2	1822.3
7.5°	1675.3	1637.5	1598.9	1618.2	1569.4	1573.9	1704.9	1848.6	1882.7	1923.7	2107.3
10°	1658.0	1622.1	1633.6	1636.8	1645.8	1718.3	1802.4	1940.4	1969.3	2100.3	2147.8
12.5°	1660.6	1654.2	1708.1	1710.0	1806.3	1936.6	1970.0	2097.1	2108.6	2204.9	2403.2
15°	1748.5	1792.8	1762.6	1778.7	1797.3	1953.3	2001.4	2183.7	2253.0	2376.9	2525.8
17.5°	1919.9	1932.7	1842.2	1818.5	1879.5	1927.0	2036.7	2115.7	2188.2	2534.2	2739.6
20°	1959.7	1994.4	1886.5	1763.9	1892.9	1959.0	2035.4	2071.4	2127.9	2557.3	2848.7
22.5°	2130.4	2058.5	1928.2	1821.7	1864.0	1928.2	1983.4	2118.9	2267.2	2491.2	2957.8
25°	2227.4	2185.6	2069.5	1955.2	1919.3	1921.2	2027.7	2149.0	2200.4	2588.1	2979.7
27.5°	2461.6	2394.9	2133.6	2111.8	1976.4	1871.1	2034.8	2223.5	2313.4	2512.4	3086.2
30°	2755.0	2704.3	2361.5	2332.6	2125.9	1942.4	2124.7	2278.7	2265.9	2561.8	3160.0
32.5°	2992.5	3077.2	2731.2	2503.4	2356.4	2180.5	2096.4	2269.1	2396.8	2676.7	3285.2
35°	3331.4	3411.0	3019.4	2865.4	2546.4	2290.9	2293.5	2401.3	2480.3	2810.8	3425.1
37.5°	3918.1	3848.1	3533.0	3289.7	3085.6	2704.3	2590.0	2552.2	2615.7	2975.2	3699.2
40°	4341.1	4282.0	3911.0	3772.4	3375.1	3153.6	2840.4	2804.4	2916.7	3144.6	3923.2
42.5°	4842.4	4737.1	4391.8	4277.6	3862.3	3463.0	3147.2	3167.7	3222.3	3464.3	4226.2
45°	5352.7	5097.2	4901.5	4892.5	4615.2	4063.8	3639.5	3622.8	3624.8	3934.8	4566.4
47.5°	5757.8	5528.0	5303.9	5197.4	5057.4	5103.0	4354.6	4158.8	4099.8	4408.5	5076.7
50°	6031.8	5767.4	5513.8	5488.8	5862.4	6108.2	5026.0	4816.7	4853.3	5086.3	5757.1
52.5°	6037.6	5723.7	5459.3	5634.5	6514.5	6866.3	6182.7	5597.9	5714.7	5873.3	6644.8
55°	5617.8	5292.4	5120.4	5519.6	6769.4	7765.6	7807.9	6849.6	6714.8	6773.2	7705.9
57.5°	4732.7	4404.0	4303.9	4782.1	6286.0	8632.8	9770.8	8345.2	7949.8	7705.9	8793.2
60°	3562.5	3278.1	3215.9	3520.8	5211.5	8377.9	11360.2	10206.7	9401.1	8747.7	9883.8
62.5°	2671.5	2467.4	2373.7	2417.4	3606.1	7549.3	12403.9	12558.6	11417.9	9885.1	10949.4
65°	2170.9	2005.9	1922.5	1866.0	2242.8	5837.3	12215.2	14538.2	13773.7	11079.7	11778.7
67.5°	1813.3	1667.0	1628.5	1683.7	1772.9	3386.6	10738.8	15645.4	15697.4	12258.2	12263.3
70°	1505.2	1396.8	1382.6	1539.3	1656.7	2043.8	7756.6	15297.5	15871.4	13142.1	12149.7
72.5°	1163.1	1104.7	1102.8	1348.6	1645.8	1742.1	4619.0	13215.2	13986.1	12859.6	11037.9
75°	806.9	766.4	797.2	1108.5	1607.9	1767.1	2636.2	10293.3	10870.4	10942.9	8842.0
77.5°	555.2	521.2	554.6	801.7	1435.9	1809.5	1844.1	7442.7	7506.9	7338.1	5064.5
80°	386.4	362.7	388.3	567.4	1117.5	1790.9	1570.1	4685.8	4299.4	3274.9	1621.4
82.5°	239.4	232.4	260.6	404.4	787.0	1629.1	1487.9	2418.0	1846.1	903.8	579.0
85°	125.8	115.5	151.5	263.8	492.3	1278.6	1394.2	1103.4	712.5	320.9	232.4
87.5°	37.2	33.4	58.4	106.6	208.6	573.2	797.9	467.9	265.7	94.4	72.5
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°	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9	1175.9
2.5°	1433.3	1426.3	1331.3	1343.5	1364.0	1369.2	1368.5	1333.8	1297.3	1399.3	1396.1
5°	1825.5	1762.0	1714.5	1704.2	1645.8	1587.4	1607.9	1600.9	1591.9	1638.1	1643.9
7.5°	2108.0	2020.0	1964.8	1823.0	1688.2	1571.3	1608.6	1620.1	1597.0	1680.5	1705.5
10°	2182.4	2113.1	2053.4	1871.1	1796.6	1728.6	1627.8	1512.9	1497.5	1449.4	1455.2
12.5°	2374.4	2364.7	2161.2	2000.8	1903.8	1768.4	1550.8	1411.5	1292.1	1297.9	1263.2
15°	2525.8	2531.0	2286.4	2061.8	1801.8	1595.1	1339.0	1165.7	1043.1	1018.7	993.6
17.5°	2729.3	2719.0	2296.7	1988.6	1659.3	1356.3	1042.4	870.4	849.9	864.0	842.2
20°	2817.9	2727.4	2231.2	1806.9	1436.5	1030.2	787.6	696.5	736.2	792.7	794.0
22.5°	2897.5	2742.8	2197.2	1660.6	1140.0	749.1	632.3	615.6	662.4	738.8	745.2
25°	2894.3	2814.0	2136.2	1512.9	883.9	584.8	549.5	561.7	617.5	697.1	701.6
27.5°	3040.0	2759.5	1977.7	1319.1	665.6	500.7	509.7	532.1	558.4	634.2	649.0
30°	3038.7	2860.9	1898.1	1083.5	534.7	459.0	482.1	501.3	523.1	592.5	600.8
32.5°	3110.6	2794.8	1849.9	842.8	479.5	448.7	454.5	473.7	505.2	552.0	557.8
35°	3197.3	2869.9	1695.9	669.5	459.0	439.7	444.2	455.1	484.0	527.0	532.8
37.5°	3475.2	2884.0	1634.9	564.2	457.7	435.8	435.2	441.0	473.7	512.9	530.2
40°	3583.7	3013.0	1457.1	527.0	453.2	435.8	426.9	430.1	457.0	507.1	520.6
42.5°	3843.6	3056.0	1325.5	514.2	453.2	428.1	414.0	419.2	450.6	494.9	516.1
45°	4111.3	3117.0	1168.9	511.6	452.5	427.5	400.5	412.1	437.8	475.0	498.1
47.5°	4492.6	3336.5	1012.3	503.9	447.4	430.7	397.3	396.7	419.2	451.2	473.1
50°	5114.6	3679.3	890.9	494.3	448.0	428.1	390.9	381.9	396.7	424.9	446.1
52.5°	5980.5	4263.4	843.4	489.1	442.9	417.9	380.0	365.9	374.2	396.7	417.2
55°	6985.7	5052.3	890.3	489.1	432.6	401.8	364.6	347.9	352.4	367.8	387.7
57.5°	8160.3	6032.5	1116.9	482.1	419.8	382.6	346.0	326.7	328.0	341.5	359.5
60°	9387.0	7127.5	1624.6	476.3	410.8	361.4	324.2	304.3	302.3	315.2	331.2
62.5°	10615.6	8137.9	2158.7	489.8	408.2	343.4	301.0	281.1	280.5	292.1	305.5
65°	11592.5	8828.6	2291.5	544.3	424.9	322.9	277.3	258.7	257.4	267.0	281.8
67.5°	12072.0	8928.7	1740.8	612.4	460.2	303.6	254.2	236.9	235.6	245.8	258.7
70°	11717.1	8244.4	1074.5	619.4	458.3	281.1	230.4	215.7	213.1	224.0	233.6
72.5°	10403.7	7211.6	816.5	548.2	396.7	249.1	206.7	193.9	190.0	199.6	208.6
75°	8350.3	5725.7	654.1	442.3	312.6	209.9	182.9	170.7	166.2	175.2	182.9
77.5°	4864.2	3221.0	478.2	345.3	236.2	171.4	156.0	145.1	139.9	149.6	155.3
80°	1581.6	1073.2	300.4	247.8	172.7	134.2	126.5	118.7	113.6	120.0	122.0
82.5°	568.1	399.3	166.2	152.1	114.9	96.3	95.6	91.1	84.7	87.3	87.3
85°	251.6	182.3	98.9	81.5	68.7	51.4	60.3	57.1	50.7	49.4	47.5
87.5°	70.6	60.3	35.9	27.6	22.5	8.3	19.3	17.3	14.1	12.8	9.0
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)