

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: P368166

Luminaire Tested: **MSA-SA3D-830-U-SL2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368166
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-SA3D-830-U-SL2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 15713 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G3

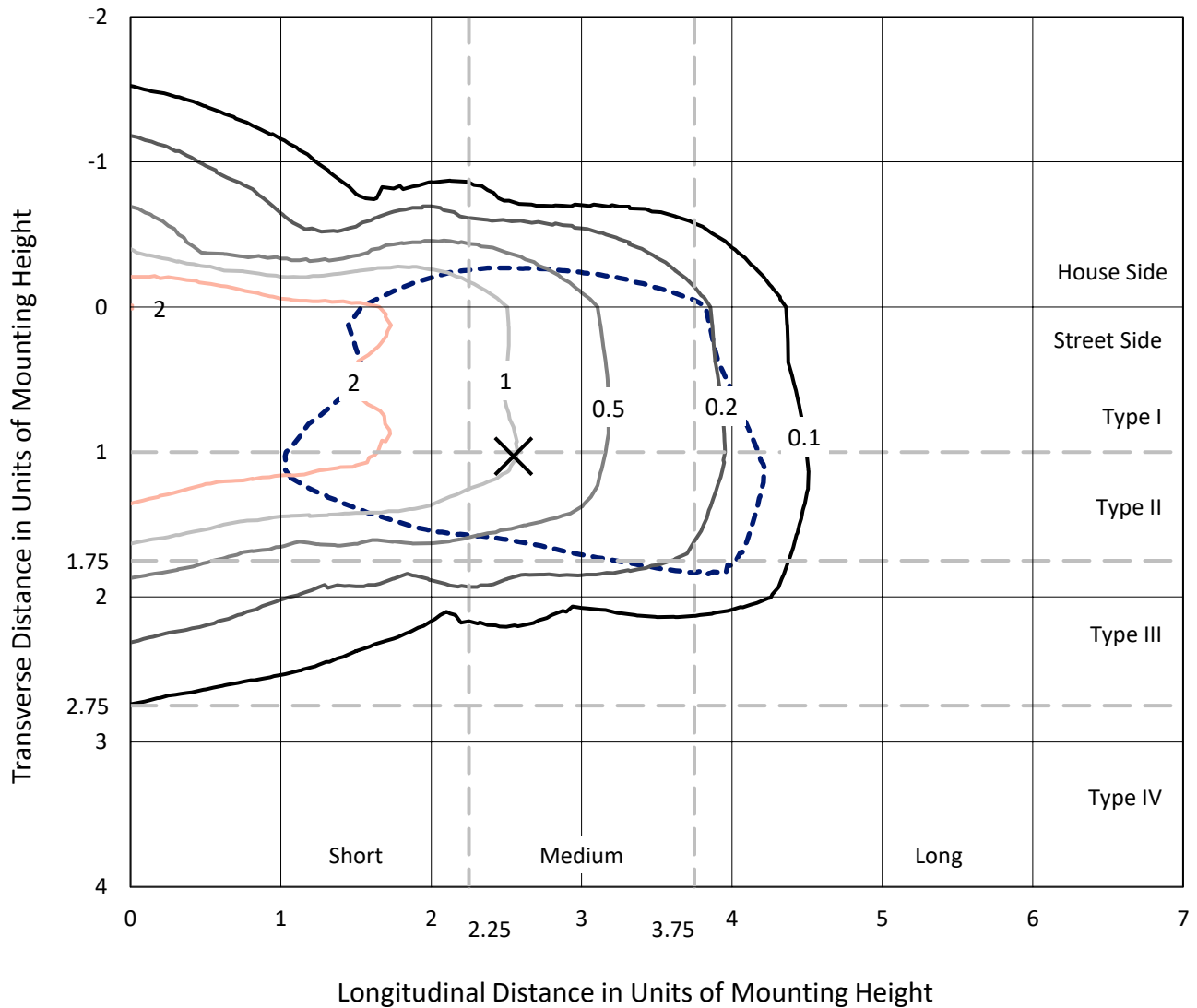
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

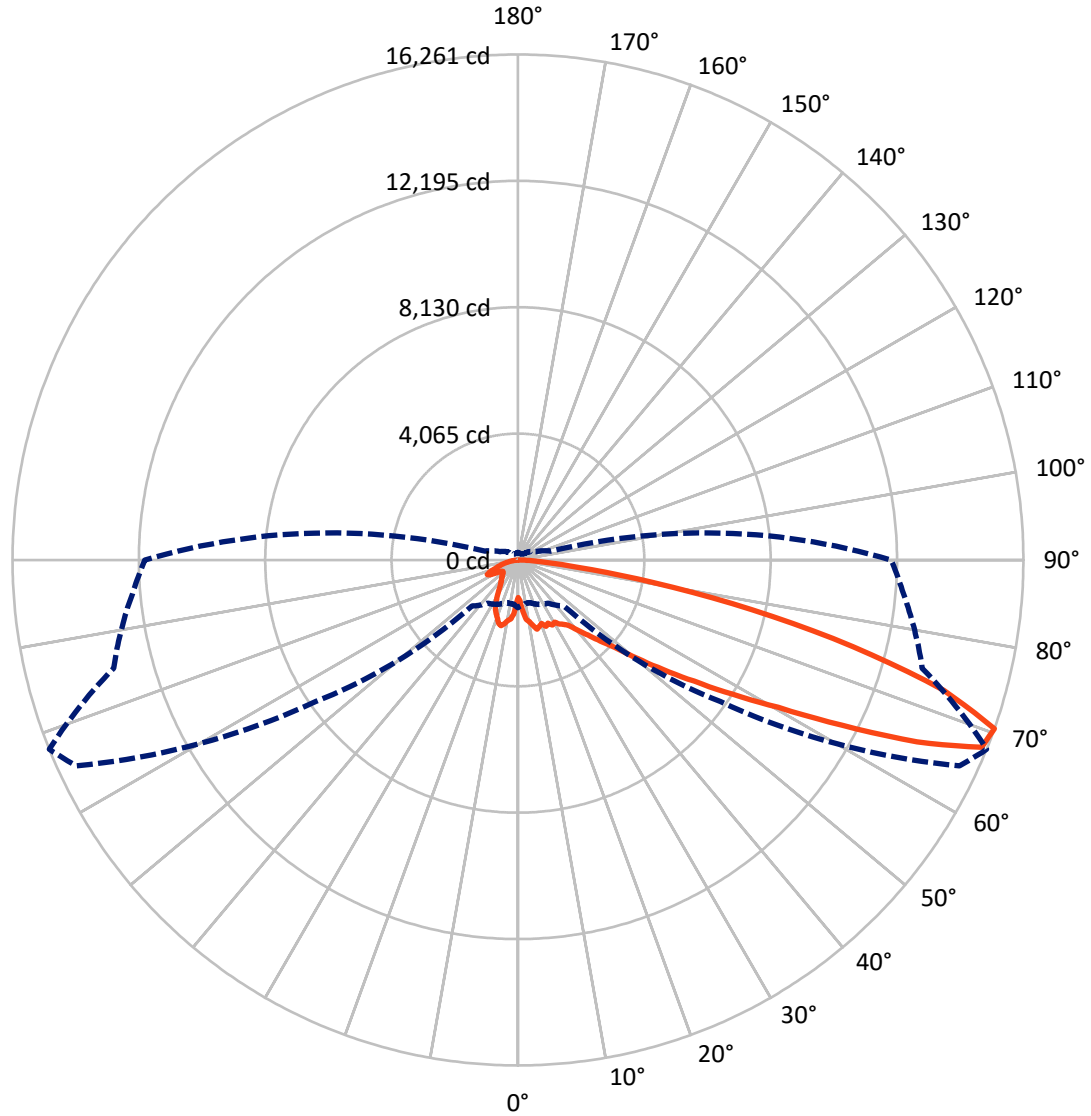
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 fc
 Type 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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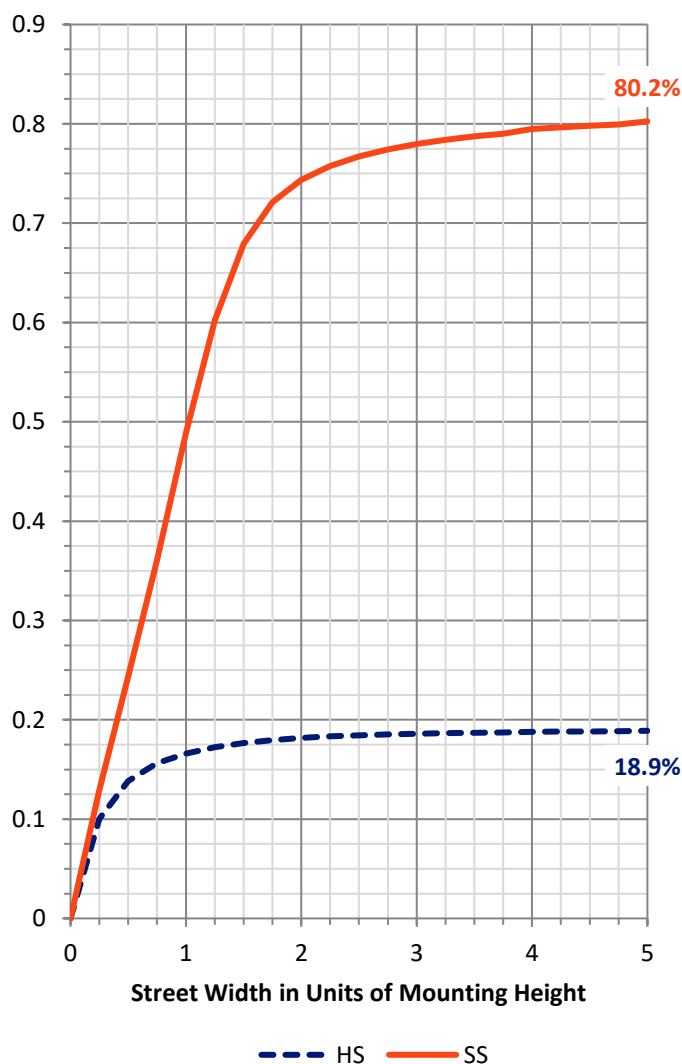
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3000.0	0.0	3000.0
	% Fixture	19.1	0.0	19.1
Street Side	Lumens	12713.0	0.0	12713.0
	% Fixture	80.9	0.0	80.9
Total	Lumens	15713.0	0.0	15713.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.9	1.0
10°-20°	524.4	3.3
20°-30°	797.8	5.1
30°-40°	1218.5	7.8
40°-50°	2095.2	13.3
50°-60°	3468.0	22.1
60°-70°	4275.6	27.2
70°-80°	2746.5	17.5
80°-90°	426.0	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°	15713.0	100.0
0°-180°	15713.0	100.0

Coefficient of Utilization



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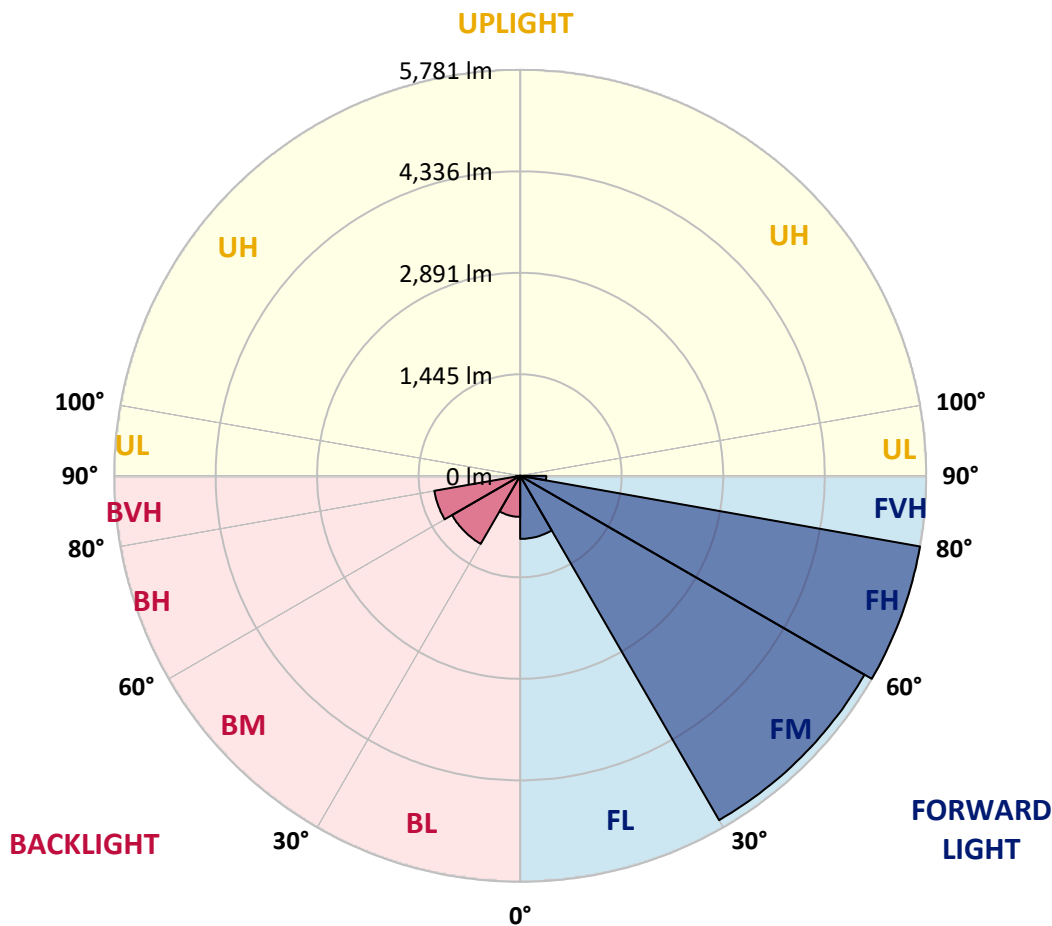
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	898.5	5.7			
FM (30°-60°)	5662.0	36.0			
FH (60°-80°)	5781.2	36.8			G3/7500
FVH (80°-90°)	371.3	2.4			G3/500
BL (0°-30°)	584.6	3.7	B2/1000		
BM (30°-60°)	1119.8	7.1	B2/2500		
BH (60°-80°)	1241.0	7.9	B3/2500		G3/2500
BVH (80°-90°)	54.7	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°	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8
2.5°	1384.3	1328.4	1271.8	1299.5	1343.5	1382.3	1374.4	1379.0	1325.8	1318.5	1458.6
5°	1630.9	1534.9	1532.9	1534.2	1538.2	1493.5	1602.6	1659.2	1671.7	1729.6	1867.0
7.5°	1716.4	1677.6	1638.1	1657.9	1607.9	1612.5	1746.7	1894.0	1928.8	1970.9	2159.0
10°	1698.6	1661.8	1673.7	1676.9	1686.2	1760.5	1846.6	1988.0	2017.6	2151.8	2200.4
12.5°	1701.3	1694.7	1749.9	1751.9	1850.6	1984.1	2018.3	2148.5	2160.3	2258.9	2462.2
15°	1791.4	1836.8	1805.8	1822.3	1841.4	2001.2	2050.5	2237.2	2308.3	2435.2	2587.8
17.5°	1967.0	1980.1	1887.4	1863.1	1925.5	1974.2	2086.6	2167.5	2241.8	2596.3	2806.7
20°	2007.7	2043.2	1932.8	1807.2	1939.3	2007.1	2085.3	2122.2	2180.0	2620.0	2918.5
22.5°	2182.7	2109.0	1975.5	1866.3	1909.7	1975.5	2032.1	2170.8	2322.7	2552.2	3030.3
25°	2282.0	2239.2	2120.2	2003.1	1966.3	1968.3	2077.4	2201.7	2254.3	2651.5	3052.7
27.5°	2522.0	2453.6	2185.9	2163.6	2024.8	1917.0	2084.7	2278.0	2370.1	2573.9	3161.9
30°	2822.5	2770.6	2419.4	2389.8	2178.1	1990.0	2176.7	2334.6	2321.4	2624.6	3237.5
32.5°	3065.9	3152.7	2798.2	2564.7	2414.1	2234.0	2147.8	2324.7	2455.6	2742.3	3365.7
35°	3413.1	3494.6	3093.5	2935.6	2608.8	2347.1	2349.7	2460.2	2541.1	2879.7	3509.1
37.5°	4014.2	3942.5	3619.6	3370.3	3161.2	2770.6	2653.5	2614.7	2679.8	3048.1	3789.9
40°	4447.5	4387.0	4006.9	3864.9	3457.8	3230.9	2910.0	2873.2	2988.3	3221.7	4019.4
42.5°	4961.1	4853.3	4499.5	4382.4	3956.9	3547.9	3224.3	3245.4	3301.3	3549.2	4329.8
45°	5483.9	5222.2	5021.6	5012.4	4728.3	4163.4	3728.7	3711.6	3713.6	4031.2	4678.4
47.5°	5898.9	5663.5	5434.0	5324.8	5181.4	5228.1	4461.3	4260.8	4200.3	4516.6	5201.2
50°	6179.7	5908.8	5649.0	5623.4	6006.1	6258.0	5149.2	4934.8	4972.3	5211.0	5898.3
52.5°	6185.6	5864.1	5593.1	5772.6	6674.2	7034.6	6334.3	5735.2	5854.8	6017.3	6807.7
55°	5755.5	5422.1	5245.9	5654.9	6935.3	7956.0	7999.4	7017.5	6879.4	6939.3	7894.8
57.5°	4848.7	4512.0	4409.4	4899.3	6440.1	8844.4	10010.4	8549.8	8144.7	7894.8	9008.8
60°	3649.8	3358.5	3294.7	3607.1	5339.3	8583.3	11638.7	10456.9	9631.6	8962.1	10126.1
62.5°	2737.0	2527.9	2431.9	2476.6	3694.5	7734.3	12708.0	12866.5	11697.9	10127.4	11217.8
65°	2224.1	2055.1	1969.6	1911.7	2297.7	5980.5	12514.6	14894.6	14111.3	11351.3	12067.4
67.5°	1857.8	1707.9	1668.4	1725.0	1816.4	3469.6	11002.1	16029.0	16082.3	12558.7	12564.0
70°	1542.1	1431.0	1416.5	1577.0	1697.3	2093.9	7946.8	15672.5	16260.5	13464.2	12447.6
72.5°	1191.6	1131.8	1129.8	1381.7	1686.2	1784.8	4732.3	13539.2	14329.0	13174.9	11308.5
75°	826.6	785.2	816.8	1135.7	1647.4	1810.4	2700.9	10545.7	11136.9	11211.2	9058.8
77.5°	568.8	534.0	568.2	821.4	1471.1	1853.8	1889.4	7625.2	7690.9	7518.0	5188.7
80°	395.9	371.6	397.9	581.3	1144.9	1834.8	1608.6	4800.7	4404.8	3355.2	1661.2
82.5°	245.3	238.1	267.0	414.3	806.2	1669.1	1524.4	2477.3	1891.3	925.9	593.2
85°	128.9	118.4	155.2	270.3	504.4	1310.0	1428.4	1130.5	730.0	328.8	238.1
87.5°	38.1	34.2	59.8	109.2	213.7	587.3	817.4	479.4	272.3	96.7	74.3
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°	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8	1204.8
2.5°	1468.5	1461.2	1363.9	1376.4	1397.5	1402.7	1402.1	1366.5	1329.1	1433.6	1430.3
5°	1870.3	1805.2	1756.5	1746.0	1686.2	1626.3	1647.4	1640.1	1630.9	1678.3	1684.2
7.5°	2159.6	2069.5	2013.0	1867.7	1729.6	1609.9	1648.0	1659.8	1636.2	1721.7	1747.3
10°	2235.9	2164.9	2103.7	1917.0	1840.7	1771.0	1667.7	1550.0	1534.2	1484.9	1490.8
12.5°	2432.6	2422.7	2214.2	2049.8	1950.5	1811.8	1588.8	1446.1	1323.8	1329.7	1294.2
15°	2587.8	2593.0	2342.5	2112.3	1846.0	1634.2	1371.8	1194.2	1068.6	1043.7	1018.0
17.5°	2796.2	2785.7	2353.0	2037.3	1700.0	1389.6	1068.0	891.7	870.7	885.2	862.8
20°	2887.0	2794.3	2285.9	1851.2	1471.8	1055.5	806.9	713.5	754.3	812.2	813.5
22.5°	2968.5	2810.0	2251.1	1701.3	1167.9	767.4	647.8	630.7	678.7	756.9	763.5
25°	2965.2	2883.0	2188.6	1550.0	905.6	599.1	562.9	575.4	632.6	714.2	718.8
27.5°	3114.5	2827.1	2026.1	1351.4	682.0	512.9	522.2	545.2	572.1	649.7	664.9
30°	3113.2	2931.0	1944.6	1110.1	547.8	470.2	493.9	513.6	536.0	607.0	615.5
32.5°	3186.9	2863.3	1895.3	863.5	491.2	459.7	465.6	485.3	517.6	565.6	571.5
35°	3275.6	2940.2	1737.4	685.9	470.2	450.5	455.1	466.3	495.9	539.9	545.8
37.5°	3560.4	2954.7	1675.0	578.1	468.9	446.5	445.9	451.8	485.3	525.4	543.2
40°	3671.5	3086.9	1492.8	539.9	464.3	446.5	437.3	440.6	468.2	519.5	533.3
42.5°	3937.9	3131.0	1358.0	526.8	464.3	438.6	424.2	429.4	461.7	507.0	528.7
45°	4212.1	3193.4	1197.5	524.1	463.6	438.0	410.4	422.2	448.5	486.6	510.3
47.5°	4602.7	3418.3	1037.1	516.2	458.4	441.3	407.1	406.4	429.4	462.3	484.7
50°	5240.0	3769.5	912.8	506.4	459.0	438.6	400.5	391.3	406.4	435.3	457.1
52.5°	6127.1	4368.0	864.1	501.1	453.8	428.1	389.3	374.8	383.4	406.4	427.5
55°	7156.9	5176.2	912.1	501.1	443.2	411.7	373.5	356.4	361.0	376.8	397.2
57.5°	8360.4	6180.4	1144.3	493.9	430.1	391.9	354.5	334.7	336.0	349.9	368.3
60°	9617.1	7302.3	1664.5	488.0	420.9	370.2	332.1	311.7	309.7	322.9	339.3
62.5°	10875.8	8337.4	2211.6	501.8	418.3	351.8	308.4	288.0	287.4	299.2	313.0
65°	11876.7	9045.0	2347.7	557.7	435.3	330.8	284.1	265.0	263.7	273.6	288.7
67.5°	12368.0	9147.6	1783.5	627.4	471.5	311.1	260.4	242.7	241.3	251.9	265.0
70°	12004.3	8446.6	1100.9	634.6	469.5	288.0	236.1	221.0	218.3	229.5	239.4
72.5°	10658.8	7388.4	836.5	561.6	406.4	255.2	211.8	198.6	194.7	204.5	213.7
75°	8555.1	5866.0	670.1	453.1	320.3	215.0	187.4	174.9	170.3	179.5	187.4
77.5°	4983.5	3300.0	489.9	353.8	242.0	175.6	159.8	148.6	143.4	153.2	159.1
80°	1620.4	1099.6	307.8	253.8	176.9	137.4	129.6	121.7	116.4	123.0	124.9
82.5°	582.0	409.0	170.3	155.9	117.7	98.6	98.0	93.4	86.8	89.4	89.4
85°	257.8	186.8	101.3	83.5	70.4	52.6	61.8	58.5	52.0	50.6	48.7
87.5°	72.3	61.8	36.8	28.3	23.0	8.5	19.7	17.8	14.5	13.2	9.2
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)