

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: P368298

Luminaire Tested: **MSA-SA4A-830-U-SL2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368298
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-SA4A-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: 12238 lumens
Efficiency: N/A
Efficacy: 94.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B2 - U0 - G3

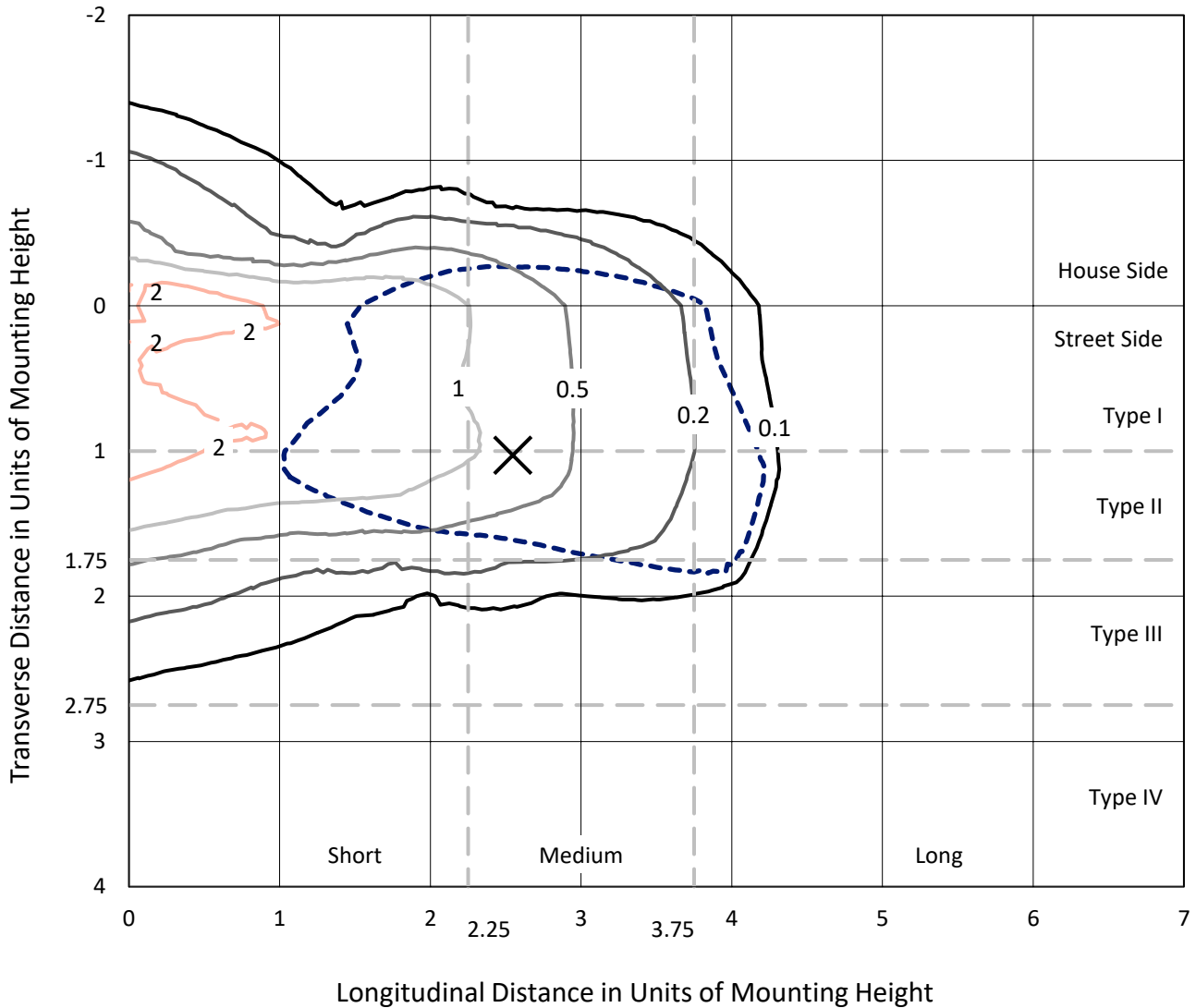
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

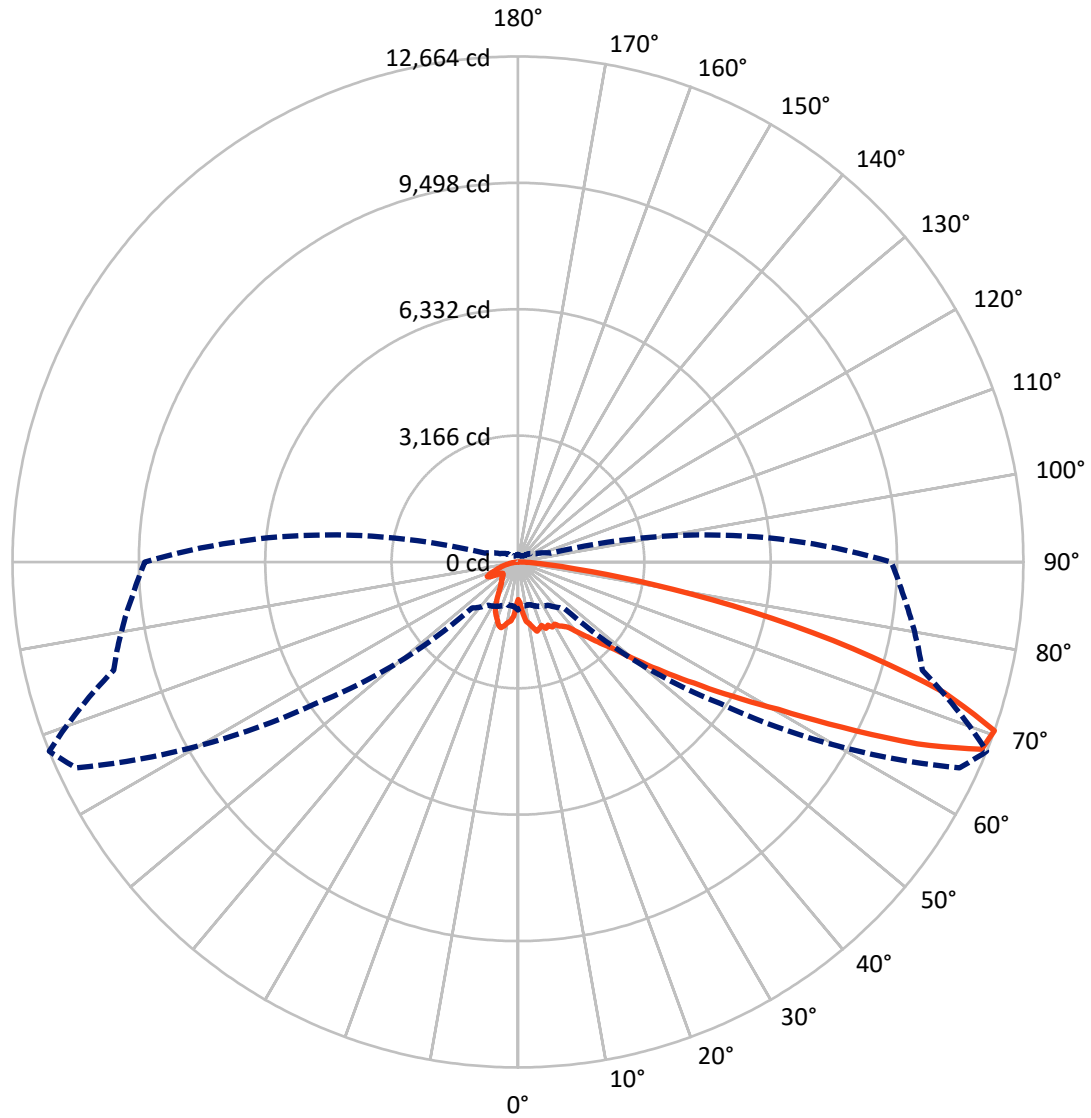
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 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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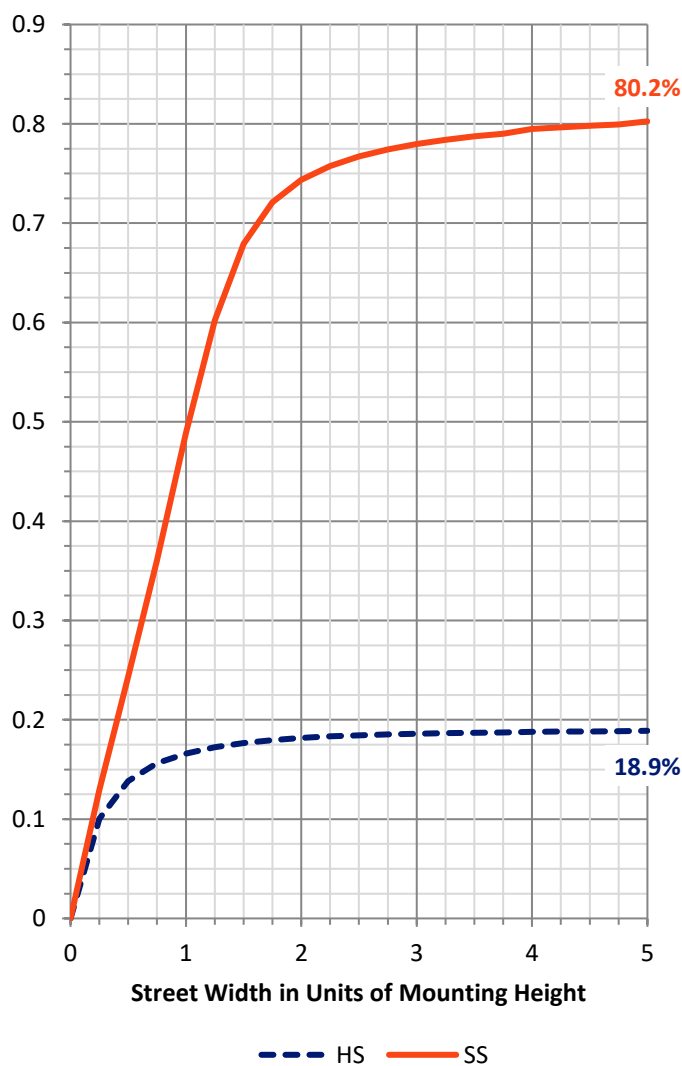
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2336.5	0.0	2336.5
	% Fixture	19.1	0.0	19.1
Street Side	Lumens	9901.5	0.0	9901.5
	% Fixture	80.9	0.0	80.9
Total	Lumens	12238.0	0.0	12238.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.3	1.0
10°-20°	408.5	3.3
20°-30°	621.3	5.1
30°-40°	949.1	7.8
40°-50°	1631.8	13.3
50°-60°	2701.0	22.1
60°-70°	3330.0	27.2
70°-80°	2139.1	17.5
80°-90°	331.8	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°	12238.0	100.0
0°-180°	12238.0	100.0

Coefficient of Utilization



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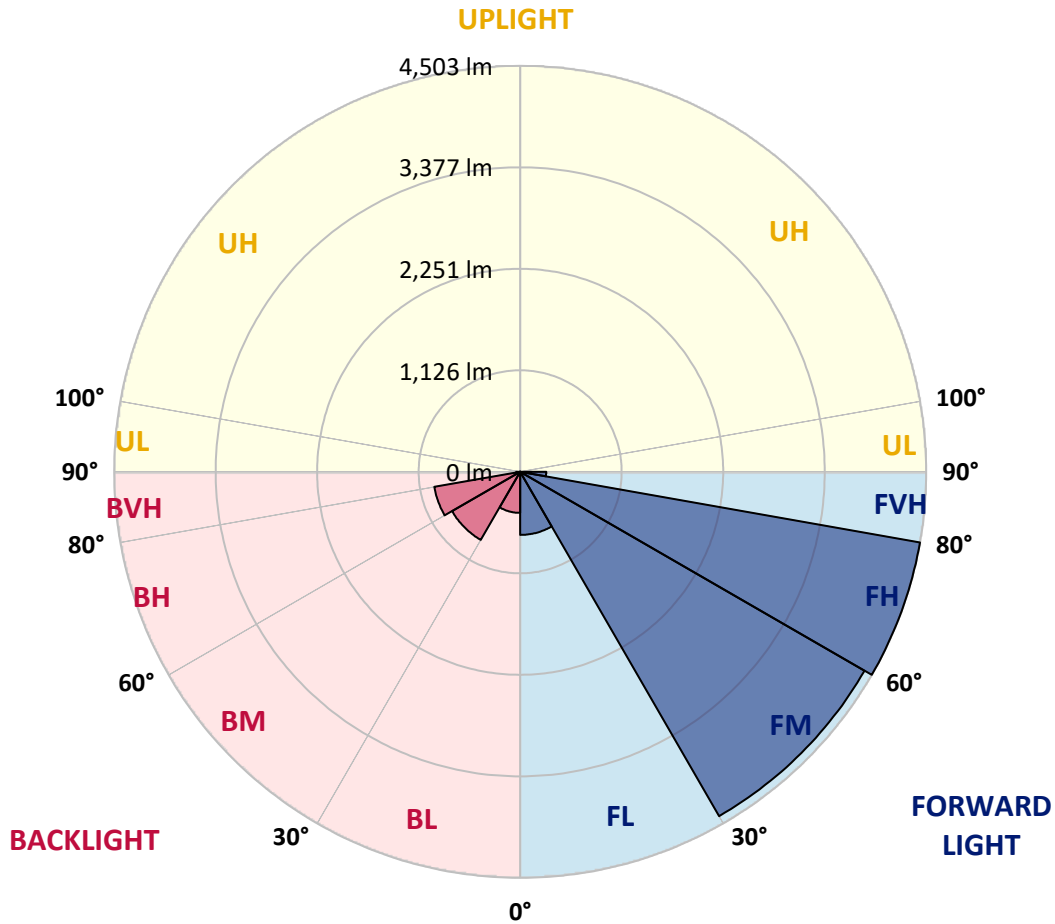
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	699.8	5.7			
FM (30°-60°)	4409.8	36.0			
FH (60°-80°)	4502.6	36.8			G2/5000
FVH (80°-90°)	289.2	2.4			G3/500
BL (0°-30°)	455.3	3.7	B1/500		
BM (30°-60°)	872.1	7.1	B1/1000		
BH (60°-80°)	966.5	7.9	B2/1000		G2/1000
BVH (80°-90°)	42.6	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-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3
2.5°	1078.2	1034.6	990.6	1012.1	1046.4	1076.6	1070.5	1074.1	1032.6	1026.9	1136.0
5°	1270.2	1195.4	1193.9	1194.9	1198.0	1163.2	1248.2	1292.3	1302.0	1347.1	1454.1
7.5°	1336.8	1306.6	1275.9	1291.2	1252.3	1255.9	1360.4	1475.1	1502.3	1535.0	1681.5
10°	1323.0	1294.3	1303.5	1306.1	1313.3	1371.1	1438.2	1548.3	1571.4	1675.9	1713.8
12.5°	1325.0	1319.9	1362.9	1364.5	1441.3	1545.3	1571.9	1673.3	1682.5	1759.4	1917.6
15°	1395.2	1430.5	1406.5	1419.3	1434.1	1558.6	1597.0	1742.5	1797.8	1896.6	2015.5
17.5°	1532.0	1542.2	1470.0	1451.0	1499.7	1537.6	1625.2	1688.2	1746.1	2022.1	2186.0
20°	1563.7	1591.4	1505.3	1407.5	1510.4	1563.2	1624.2	1652.8	1697.9	2040.6	2273.1
22.5°	1700.0	1642.6	1538.6	1453.6	1487.4	1538.6	1582.7	1690.7	1809.1	1987.8	2360.2
25°	1777.3	1744.0	1651.3	1560.1	1531.4	1533.0	1618.0	1714.8	1755.8	2065.1	2377.6
27.5°	1964.2	1911.0	1702.5	1685.1	1577.0	1493.0	1623.6	1774.2	1845.9	2004.7	2462.6
30°	2198.3	2157.9	1884.3	1861.3	1696.4	1549.9	1695.3	1818.3	1808.0	2044.1	2521.5
32.5°	2387.8	2455.4	2179.4	1997.5	1880.2	1739.9	1672.8	1810.6	1912.5	2135.8	2621.4
35°	2658.3	2721.8	2409.3	2286.4	2031.9	1828.0	1830.1	1916.1	1979.1	2242.9	2733.0
37.5°	3126.4	3070.6	2819.1	2625.0	2462.1	2157.9	2066.7	2036.5	2087.2	2374.0	2951.7
40°	3463.9	3416.8	3120.8	3010.1	2693.1	2516.4	2266.4	2237.8	2327.4	2509.2	3130.5
42.5°	3864.0	3780.0	3504.4	3413.2	3081.8	2763.3	2511.3	2527.7	2571.2	2764.3	3372.3
45°	4271.1	4067.3	3911.1	3903.9	3682.6	3242.7	2904.1	2890.8	2892.3	3139.7	3643.7
47.5°	4594.3	4411.0	4232.2	4147.2	4035.5	4071.9	3474.7	3318.5	3271.4	3517.7	4050.9
50°	4813.0	4602.0	4399.7	4379.7	4677.8	4874.0	4010.4	3843.5	3872.7	4058.6	4593.8
52.5°	4817.7	4567.2	4356.2	4496.0	5198.2	5478.9	4933.4	4466.8	4560.0	4686.5	5302.2
55°	4482.7	4223.0	4085.7	4404.3	5401.5	6196.5	6230.3	5465.6	5358.0	5404.6	6148.8
57.5°	3776.4	3514.1	3434.2	3815.8	5015.9	6888.4	7796.5	6659.0	6343.5	6148.8	7016.5
60°	2842.7	2615.8	2566.1	2809.4	4158.5	6685.1	9064.7	8144.3	7501.5	6980.1	7886.7
62.5°	2131.7	1968.9	1894.1	1928.9	2877.5	6023.9	9897.5	10021.0	9110.8	7887.7	8736.9
65°	1732.2	1600.6	1534.0	1488.9	1789.6	4657.8	9747.0	11600.6	10990.6	8840.9	9398.7
67.5°	1446.9	1330.2	1299.4	1343.5	1414.7	2702.3	8568.9	12484.1	12525.6	9781.3	9785.4
70°	1201.1	1114.5	1103.3	1228.2	1322.0	1630.8	6189.3	12206.5	12664.4	10486.6	9694.7
72.5°	928.1	881.5	879.9	1076.1	1313.3	1390.1	3685.7	10545.0	11160.1	10261.2	8807.6
75°	643.8	611.6	636.1	884.6	1283.0	1410.1	2103.6	8213.5	8673.9	8731.8	7055.4
77.5°	443.0	415.9	442.5	639.7	1145.8	1443.9	1471.5	5938.8	5990.1	5855.3	4041.2
80°	308.3	289.4	309.9	452.8	891.7	1429.0	1252.8	3739.0	3430.6	2613.2	1293.8
82.5°	191.0	185.4	207.9	322.7	627.9	1299.9	1187.3	1929.4	1473.1	721.2	462.0
85°	100.4	92.2	120.9	210.5	392.8	1020.3	1112.5	880.5	568.5	256.1	185.4
87.5°	29.7	26.6	46.6	85.0	166.5	457.4	636.7	373.4	212.0	75.3	57.9
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°	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3
2.5°	1143.7	1138.1	1062.3	1072.0	1088.4	1092.5	1092.0	1064.3	1035.1	1116.6	1114.0
5°	1456.7	1406.0	1368.1	1359.9	1313.3	1266.6	1283.0	1277.4	1270.2	1307.1	1311.7
7.5°	1682.0	1611.9	1567.8	1454.6	1347.1	1253.8	1283.5	1292.8	1274.3	1340.9	1360.9
10°	1741.4	1686.1	1638.5	1493.0	1433.6	1379.3	1298.9	1207.2	1194.9	1156.5	1161.1
12.5°	1894.6	1886.9	1724.5	1596.5	1519.2	1411.1	1237.4	1126.3	1031.0	1035.6	1008.0
15°	2015.5	2019.6	1824.4	1645.2	1437.7	1272.8	1068.4	930.1	832.3	812.8	792.9
17.5°	2177.8	2169.6	1832.6	1586.8	1324.0	1082.3	831.8	694.5	678.1	689.4	672.0
20°	2248.5	2176.3	1780.4	1441.8	1146.3	822.1	628.5	555.7	587.5	632.6	633.6
22.5°	2312.0	2188.6	1753.2	1325.0	909.6	597.7	504.5	491.2	528.6	589.5	594.7
25°	2309.5	2245.4	1704.6	1207.2	705.3	466.6	438.4	448.2	492.7	556.2	559.8
27.5°	2425.7	2201.9	1578.1	1052.5	531.1	399.5	406.7	424.6	445.6	506.0	517.8
30°	2424.7	2282.8	1514.5	864.6	426.7	366.2	384.7	400.0	417.4	472.8	479.4
32.5°	2482.1	2230.1	1476.1	672.5	382.6	358.0	362.6	378.0	403.1	440.5	445.1
35°	2551.2	2290.0	1353.2	534.2	366.2	350.8	354.4	363.1	386.2	420.5	425.1
37.5°	2773.0	2301.3	1304.5	450.2	365.2	347.8	347.3	351.9	378.0	409.2	423.1
40°	2859.6	2404.2	1162.7	420.5	361.6	347.8	340.6	343.2	364.7	404.6	415.4
42.5°	3067.0	2438.5	1057.7	410.3	361.6	341.6	330.4	334.5	359.6	394.9	411.8
45°	3280.6	2487.2	932.7	408.2	361.1	341.1	319.6	328.8	349.3	379.0	397.5
47.5°	3584.8	2662.4	807.7	402.1	357.0	343.7	317.0	316.5	334.5	360.1	377.5
50°	4081.1	2935.9	710.9	394.4	357.5	341.6	311.9	304.8	316.5	339.1	356.0
52.5°	4772.1	3402.0	673.0	390.3	353.4	333.4	303.2	291.9	298.6	316.5	332.9
55°	5574.2	4031.4	710.4	390.3	345.2	320.6	290.9	277.6	281.2	293.5	309.4
57.5°	6511.5	4813.6	891.2	384.7	335.0	305.3	276.1	260.7	261.7	272.5	286.8
60°	7490.3	5687.4	1296.4	380.0	327.8	288.4	258.7	242.8	241.2	251.5	264.3
62.5°	8470.6	6493.5	1722.5	390.8	325.8	274.0	240.2	224.3	223.8	233.0	243.8
65°	9250.1	7044.7	1828.5	434.3	339.1	257.6	221.3	206.4	205.4	213.1	224.9
67.5°	9632.7	7124.6	1389.1	488.6	367.2	242.3	202.8	189.0	188.0	196.2	206.4
70°	9349.5	6578.6	857.4	494.3	365.7	224.3	183.9	172.1	170.0	178.8	186.4
72.5°	8301.6	5754.4	651.5	437.4	316.5	198.7	164.9	154.7	151.6	159.3	166.5
75°	6663.1	4568.7	521.9	352.9	249.4	167.5	146.0	136.2	132.7	139.8	146.0
77.5°	3881.4	2570.2	381.6	275.6	188.5	136.8	124.5	115.8	111.7	119.3	123.9
80°	1262.0	856.4	239.7	197.7	137.8	107.0	100.9	94.8	90.7	95.8	97.3
82.5°	453.3	318.6	132.7	121.4	91.7	76.8	76.3	72.7	67.6	69.7	69.7
85°	200.8	145.5	78.9	65.0	54.8	41.0	48.1	45.6	40.5	39.4	37.9
87.5°	56.3	48.1	28.7	22.0	17.9	6.7	15.4	13.8	11.3	10.2	7.2
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)