

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: P367772

Luminaire Tested: **MSA-SA3A-830-U-SL3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367772
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3A-830-U-SL3
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS
EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9146 lumens
Efficiency: N/A
Efficacy: 95.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

Input Watts (W): 96
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



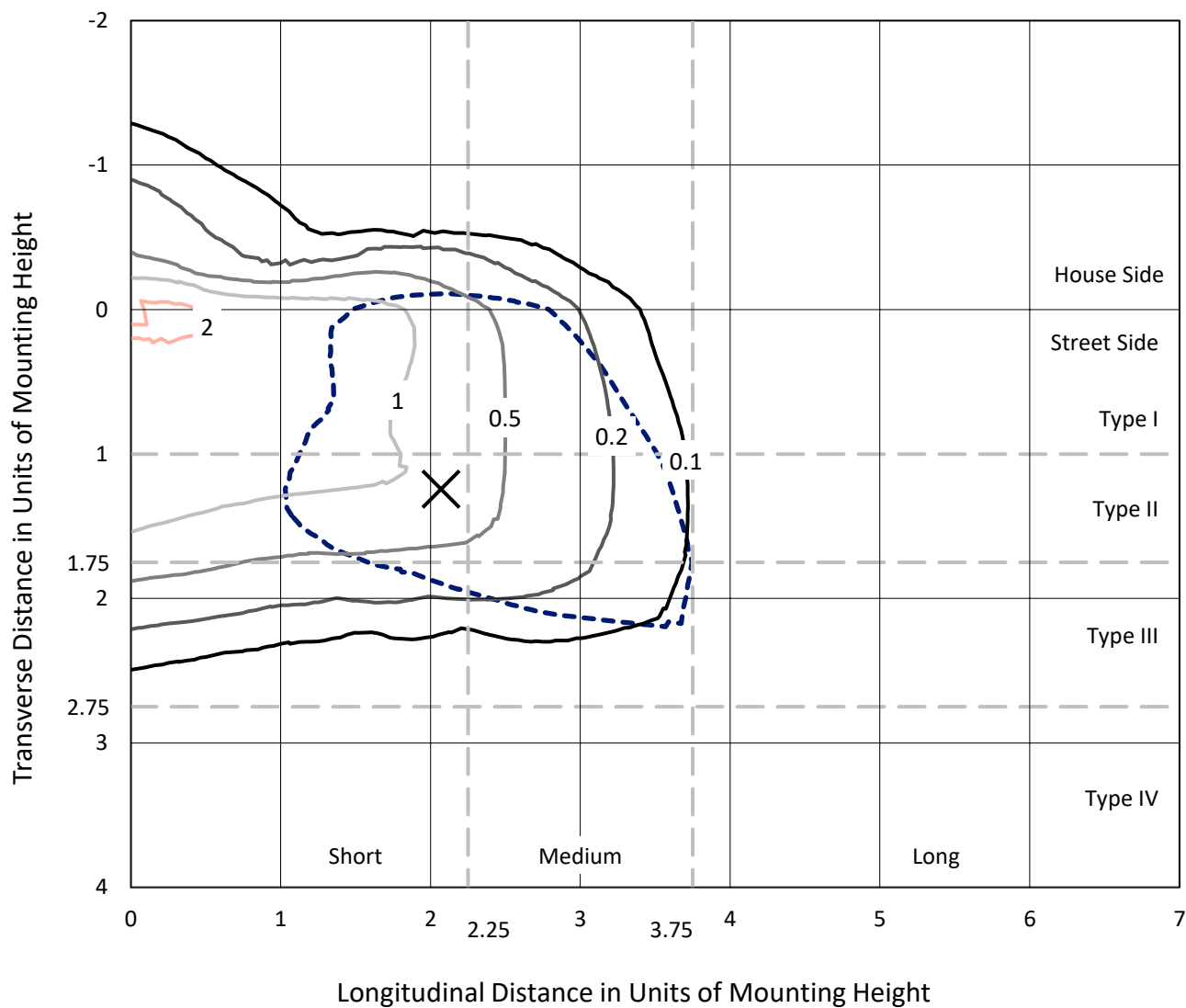
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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

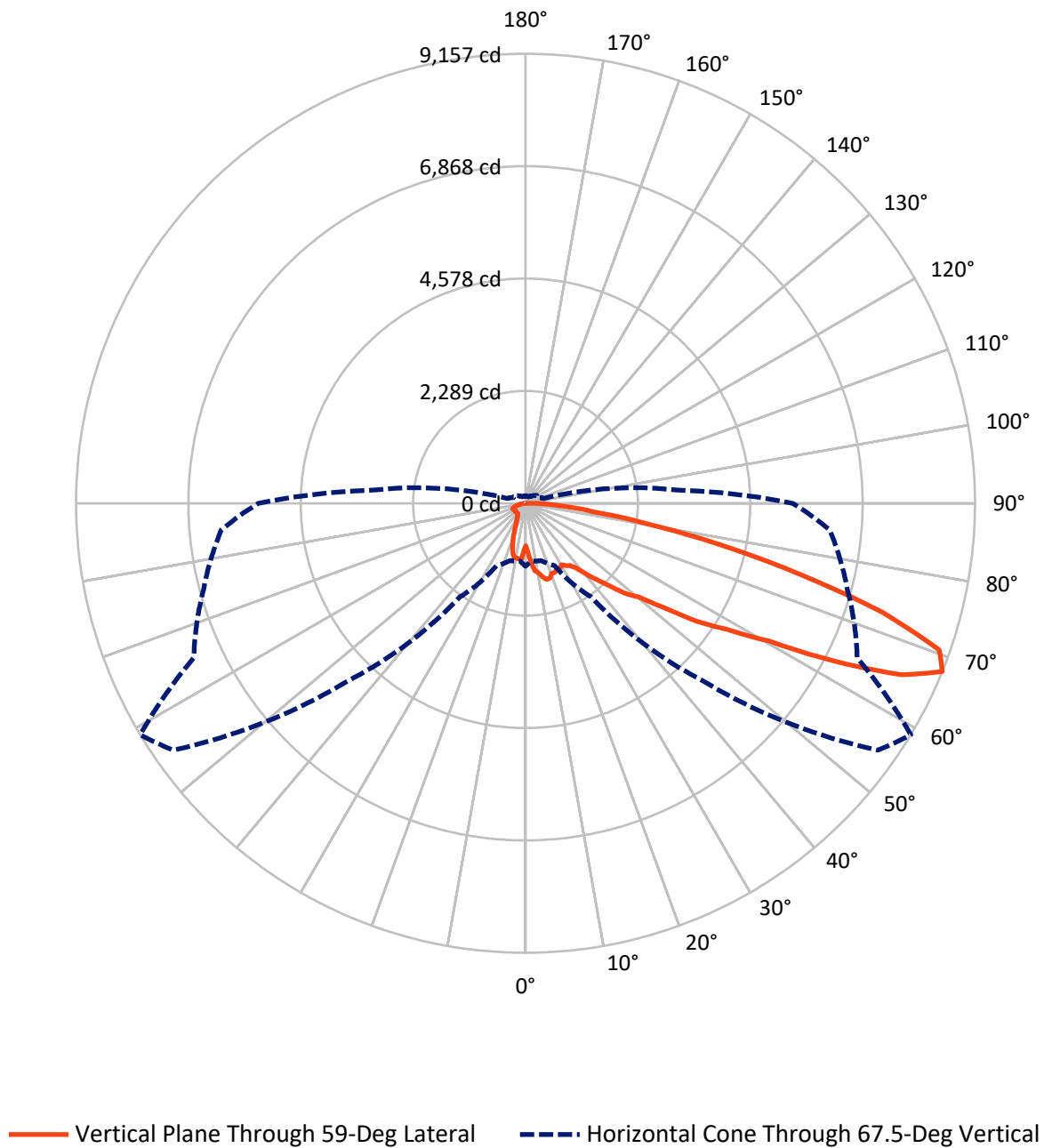


Based on 25 foot mounting height. Maximum calculated value = 2.4 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



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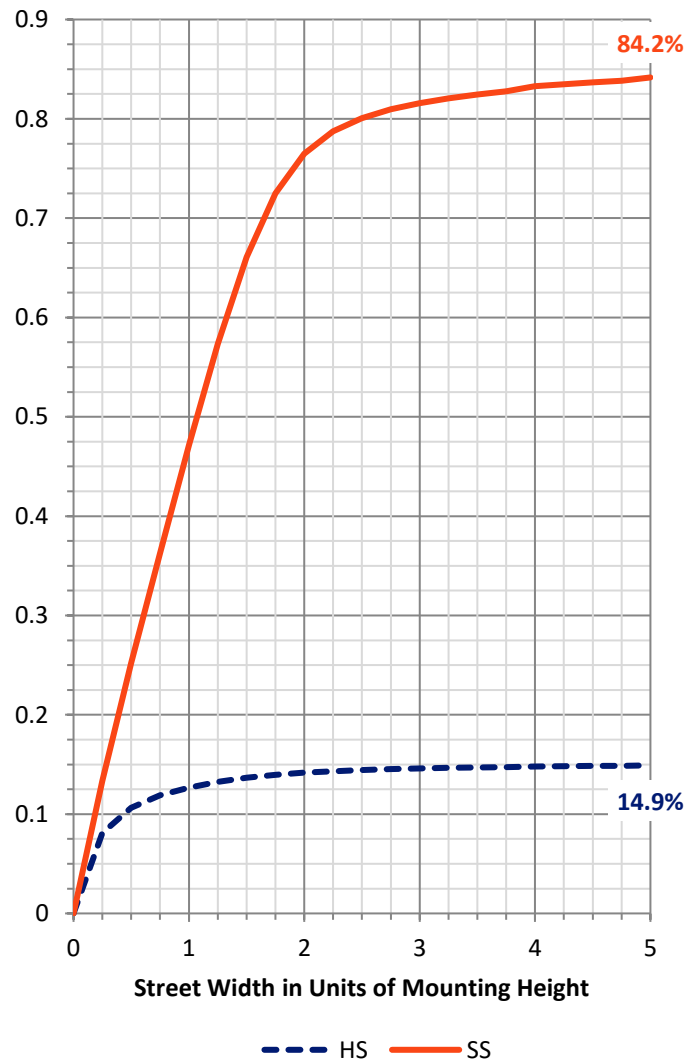
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1376.7	0.0	1376.7
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	7769.3	0.0	7769.3
	% Fixture	84.9	0.0	84.9
Total	Lumens	9146.0	0.0	9146.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.0	1.2
10°-20°	334.5	3.7
20°-30°	477.7	5.2
30°-40°	703.9	7.7
40°-50°	1189.2	13.0
50°-60°	2069.5	22.6
60°-70°	2637.2	28.8
70°-80°	1396.4	15.3
80°-90°	224.6	2.5
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°	9146.0	100.0
0°-180°	9146.0	100.0

Coefficient of Utilization



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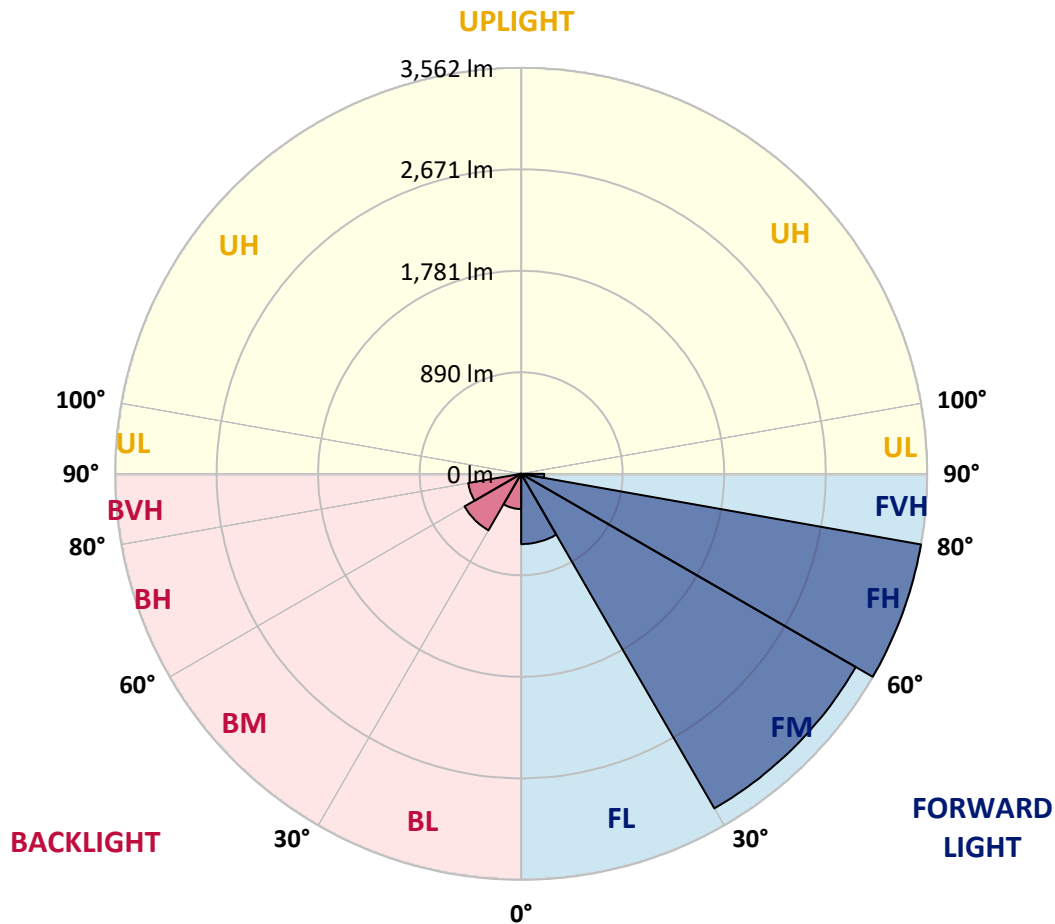
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	616.5	6.7			
FM	(30°-60°)	3389.4	37.1			
FH	(60°-80°)	3561.7	38.9			G2/5000
FVH	(80°-90°)	201.8	2.2			G2/225
BL	(0°-30°)	308.7	3.4	B1/500		
BM	(30°-60°)	573.2	6.3	B1/1000		
BH	(60°-80°)	471.8	5.2	B1/500		G1/500
BVH	(80°-90°)	22.9	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type III Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	865.5	865.5	865.5	865.5	865.5	865.5	865.5	865.5	865.5	865.5	865.5
2.5°	1080.6	1030.2	976.7	991.8	1022.4	1036.4	1021.3	1006.5	987.5	965.1	1041.8
5°	1310.4	1235.6	1224.7	1224.3	1213.5	1170.1	1225.9	1222.0	1244.5	1267.8	1327.4
7.5°	1375.9	1348.0	1317.8	1332.1	1277.4	1275.1	1361.9	1386.7	1430.1	1415.8	1496.0
10°	1342.2	1310.8	1326.7	1320.9	1325.9	1383.3	1436.3	1437.9	1484.4	1530.1	1478.6
12.5°	1282.9	1285.2	1348.4	1346.0	1427.4	1534.0	1549.9	1537.5	1613.5	1582.5	1626.6
15°	1325.1	1353.4	1337.5	1351.1	1383.3	1518.9	1563.1	1608.0	1680.1	1708.0	1663.9
17.5°	1392.6	1407.7	1336.4	1329.0	1395.3	1459.6	1569.3	1607.7	1618.9	1817.7	1755.3
20°	1363.9	1394.5	1324.7	1235.2	1345.3	1430.5	1538.7	1527.0	1581.7	1826.2	1774.3
22.5°	1445.3	1394.5	1305.7	1242.2	1280.9	1359.2	1451.1	1527.4	1592.2	1776.3	1801.8
25°	1460.8	1436.7	1353.8	1290.6	1277.4	1305.3	1436.3	1486.3	1595.6	1844.5	1787.1
27.5°	1555.3	1519.3	1350.3	1352.2	1286.7	1237.5	1389.8	1494.9	1635.2	1802.2	1823.1
30°	1672.8	1645.3	1433.2	1441.0	1350.3	1259.6	1421.6	1453.4	1658.0	1868.1	1868.5
32.5°	1760.7	1809.2	1596.4	1491.0	1458.8	1391.0	1372.8	1515.8	1631.3	1987.5	1946.0
35°	1919.3	1956.9	1722.0	1637.5	1528.6	1452.2	1505.3	1556.9	1742.5	2144.4	2061.1
37.5°	2212.7	2169.3	1955.3	1822.4	1781.7	1671.6	1701.1	1665.0	1863.5	2320.8	2286.7
40°	2382.4	2344.8	2119.6	2046.0	1884.8	1898.7	1861.9	1888.3	2025.1	2508.4	2497.5
42.5°	2549.8	2499.5	2309.2	2258.0	2097.2	2028.9	2035.5	2120.8	2274.3	2811.5	2775.4
45°	2715.3	2586.3	2503.0	2516.5	2439.0	2299.1	2308.8	2389.0	2546.4	3158.0	3075.0
47.5°	2842.1	2735.5	2670.4	2653.7	2615.3	2802.5	2718.8	2751.4	2820.8	3466.5	3435.1
50°	3082.0	2957.6	2872.7	2848.7	2978.9	3239.3	3068.8	2998.7	3146.3	3865.3	3849.0
52.5°	3466.1	3311.0	3169.6	3168.0	3356.4	3525.4	3645.5	3524.6	3578.9	4273.8	4320.3
55°	3801.3	3621.9	3494.8	3564.9	3833.1	3936.6	4344.7	4250.1	4204.4	4686.2	4819.1
57.5°	3926.5	3716.8	3633.9	3737.4	4132.7	4664.5	5095.8	4847.0	4802.4	5152.8	5431.5
60°	3651.7	3430.0	3435.1	3630.0	4314.9	5198.9	5917.1	5705.9	5444.6	5733.8	6005.8
62.5°	2868.8	2668.4	2799.1	3095.6	4162.2	5718.3	7017.8	7106.9	6178.3	6215.5	6324.4
65°	1949.9	1811.1	1929.0	2219.2	3375.8	6001.6	8066.2	8423.5	6846.5	6531.0	6462.0
67.5°	1283.3	1185.2	1208.1	1401.1	2323.9	5116.4	8767.3	9156.8	7457.3	6789.9	6219.4
70°	993.7	914.7	904.6	1005.8	1378.2	3554.4	8351.8	8944.0	7829.4	6547.3	5421.0
72.5°	779.8	719.7	725.2	822.4	1067.4	1972.0	6462.8	7605.8	7269.0	5646.6	4164.9
75°	608.1	558.9	586.4	697.6	987.2	1225.5	4459.0	5772.5	5619.8	4181.1	2375.4
77.5°	441.4	409.7	448.8	594.2	927.9	1051.5	2775.8	4027.3	3600.2	2146.8	815.1
80°	289.5	271.7	303.9	484.5	841.4	1012.0	1715.4	2467.7	1779.0	603.1	308.5
82.5°	170.5	162.8	189.5	327.9	676.3	948.4	1144.1	1371.2	727.9	255.0	163.9
85°	89.5	83.7	112.4	188.4	466.3	865.8	900.7	820.9	351.5	110.8	78.3
87.5°	29.8	29.1	47.7	72.9	176.3	459.7	480.6	389.9	145.0	32.2	17.1
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°	865.5	865.5	865.5	865.5	865.5	865.5	865.5	865.5	865.5	865.5	865.5
2.5°	1052.3	1036.8	947.6	960.0	971.6	965.8	962.3	922.0	918.2	975.5	970.9
5°	1325.9	1261.6	1185.6	1182.1	1132.1	1080.9	1091.0	1074.7	1079.4	1103.0	1105.4
7.5°	1470.5	1390.2	1317.8	1199.9	1099.9	1018.9	1031.7	1027.8	1017.4	1070.9	1085.2
10°	1467.7	1396.4	1314.7	1172.0	1104.6	1038.7	959.6	884.8	862.7	836.4	838.7
12.5°	1564.6	1501.5	1323.2	1177.8	1086.4	972.8	824.8	743.0	664.7	663.1	643.4
15°	1594.9	1548.4	1341.4	1144.5	958.9	796.1	643.0	554.2	497.6	486.4	469.7
17.5°	1671.2	1598.4	1286.0	1036.8	810.8	622.4	483.3	421.3	416.6	424.4	415.9
20°	1676.3	1558.0	1186.0	877.5	651.5	471.7	394.2	363.2	379.8	398.8	398.0
22.5°	1672.0	1507.3	1099.5	741.8	489.5	379.0	345.3	338.4	353.9	382.1	385.6
25°	1628.6	1490.6	991.4	609.3	397.3	324.8	315.5	319.7	339.1	372.5	372.5
27.5°	1673.9	1422.8	855.8	495.7	334.1	289.1	295.7	306.6	320.9	358.9	365.9
30°	1659.2	1445.3	746.5	399.2	294.6	264.3	279.1	289.9	306.2	345.7	349.2
32.5°	1698.7	1385.2	654.6	335.6	268.6	254.6	258.1	272.9	294.2	325.2	331.4
35°	1759.2	1407.3	549.2	301.9	255.8	243.4	250.0	261.6	282.9	313.2	318.2
37.5°	1952.2	1406.1	476.3	283.3	253.5	241.1	244.2	252.3	277.1	304.6	316.3
40°	2076.2	1486.7	410.1	279.1	250.8	239.9	237.2	246.1	265.9	298.4	306.6
42.5°	2309.2	1536.0	381.4	277.5	250.4	233.3	230.6	241.1	260.4	290.7	303.1
45°	2555.3	1606.1	358.5	276.7	249.2	232.2	224.0	237.2	253.5	282.5	296.9
47.5°	2844.8	1754.5	345.7	274.0	246.9	233.7	221.7	228.3	246.5	275.6	289.9
50°	3223.8	1951.0	348.4	270.1	250.4	234.1	218.2	221.3	238.0	266.3	281.0
52.5°	3684.7	2255.3	365.9	271.7	252.7	232.2	216.7	215.1	229.4	254.2	269.0
55°	4240.1	2687.1	418.2	279.1	252.7	231.8	214.3	207.4	218.2	238.4	252.7
57.5°	4910.2	3187.0	520.5	282.5	250.8	229.4	209.3	196.9	203.5	220.1	233.7
60°	5485.7	3590.5	625.9	284.9	254.6	224.0	199.2	183.7	188.0	200.8	212.8
62.5°	5779.1	3703.7	657.7	282.9	265.1	220.5	187.2	169.8	170.1	181.0	191.8
65°	5834.2	3552.9	530.2	281.0	278.7	220.1	178.7	157.7	155.0	162.8	172.1
67.5°	5441.9	3083.9	382.5	276.7	280.2	217.8	172.9	148.1	141.1	146.5	154.3
70°	4620.7	2483.6	321.3	268.2	261.6	206.2	162.8	138.0	128.7	132.6	138.4
72.5°	3444.8	1837.5	280.2	250.0	227.9	176.3	147.3	126.7	117.0	119.8	124.0
75°	1913.8	980.2	234.5	217.4	186.0	142.6	125.6	112.4	103.9	105.0	109.7
77.5°	635.6	361.6	172.1	172.5	140.7	110.1	103.5	96.1	89.5	89.9	93.8
80°	288.0	200.0	123.2	124.0	98.1	79.8	79.5	77.1	72.9	71.7	74.4
82.5°	167.0	121.3	84.5	80.6	63.2	51.9	57.7	56.6	55.4	51.2	51.9
85°	82.2	65.1	44.2	41.9	34.9	26.0	31.0	32.2	31.0	26.4	26.0
87.5°	20.2	21.3	10.9	10.1	5.8	2.7	4.7	4.7	5.8	3.9	1.9
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)