

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: P596744

Luminaire Tested: **MSA-SA4A-827-U-SL2**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596744  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-827-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: 11322 lumens  
Efficiency: N/A  
Efficacy: 87.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B2 - U0 - G3

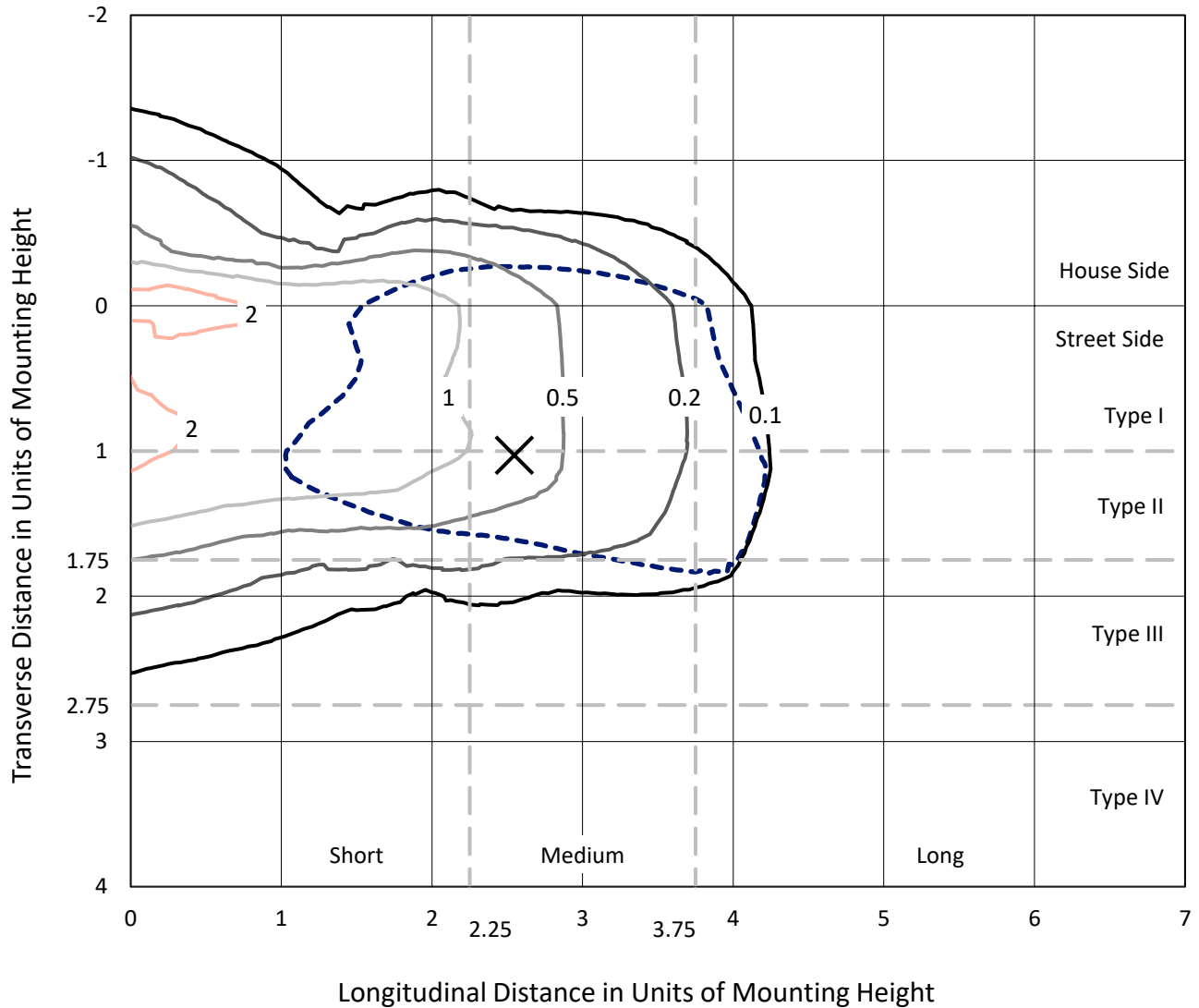
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

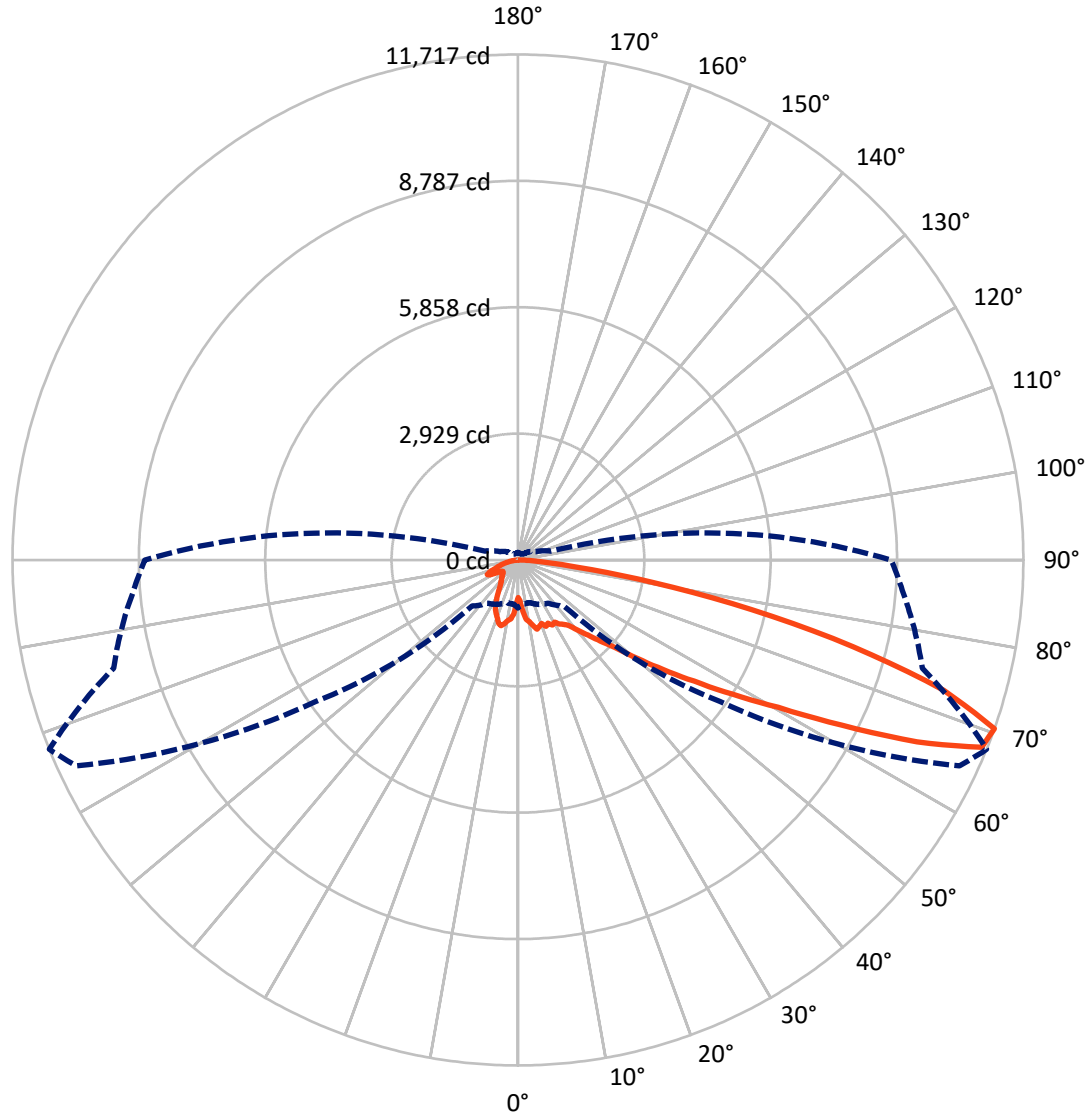
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.7 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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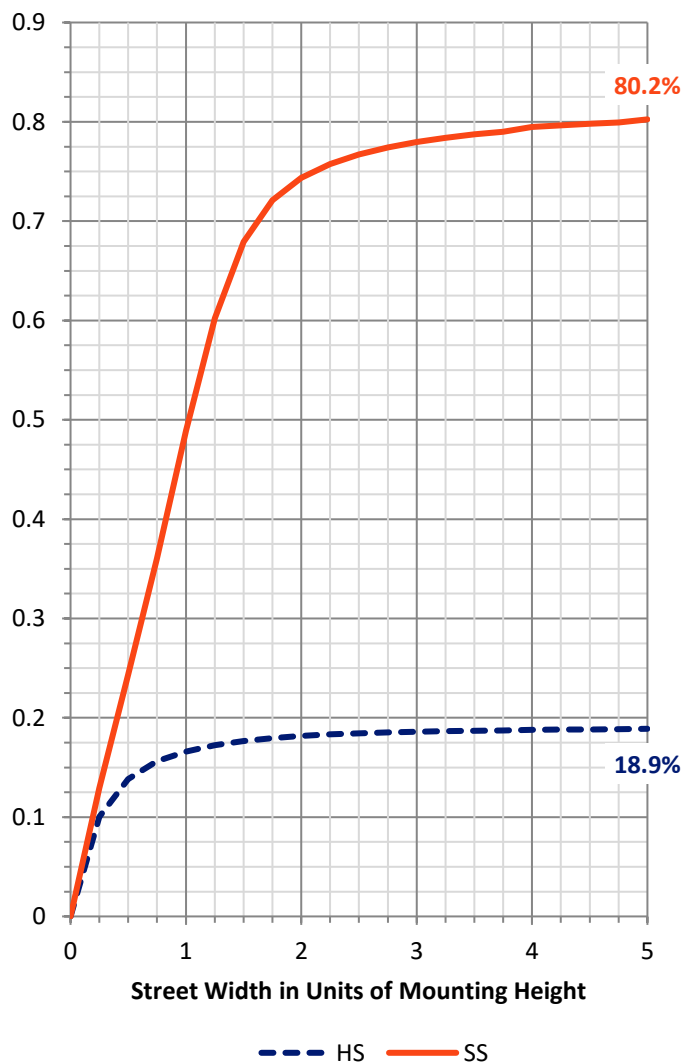
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2161.6	0.0	2161.6
	% Fixture	19.1	0.0	19.1
<b>Street Side</b>	Lumens	9160.4	0.0	9160.4
	% Fixture	80.9	0.0	80.9
<b>Total</b>	Lumens	11322.0	0.0	11322.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.9	1.0
10°-20°	377.9	3.3
20°-30°	574.8	5.1
30°-40°	878.0	7.8
40°-50°	1509.7	13.3
50°-60°	2498.9	22.1
60°-70°	3080.8	27.2
70°-80°	1979.0	17.5
80°-90°	307.0	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°	11322.0	100.0
0°-180°	11322.0	100.0

**Coefficient of Utilization**



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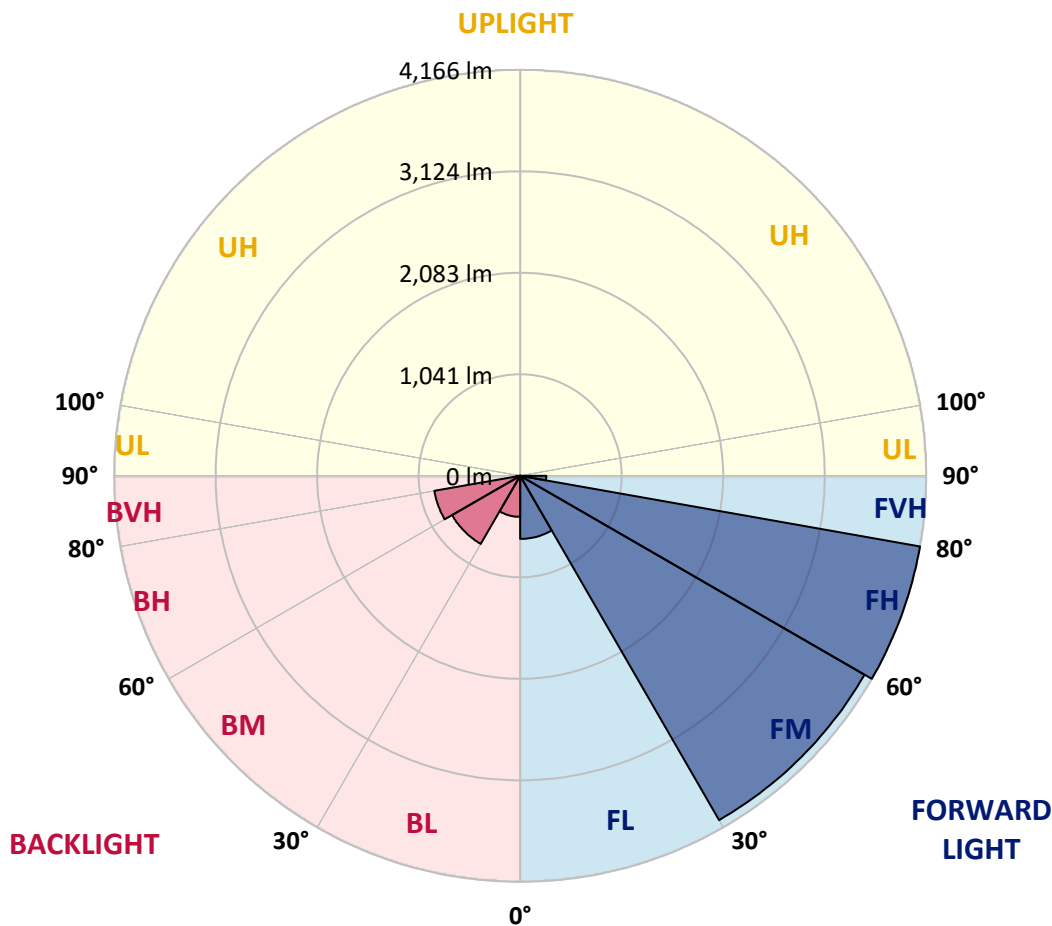
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	647.4	5.7			
FM (30°-60°)	4079.8	36.0			
FH (60°-80°)	4165.6	36.8			G2/5000
FVH (80°-90°)	267.6	2.4			G3/500
BL (0°-30°)	421.2	3.7	B1/500		
BM (30°-60°)	806.9	7.1	B1/1000		
BH (60°-80°)	894.2	7.9	B2/1000		G2/1000
BVH (80°-90°)	39.4	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: 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°	868.1	868.1	868.1	868.1	868.1	868.1	868.1	868.1	868.1	868.1	868.1
2.5°	997.5	957.2	916.4	936.3	968.1	996.0	990.4	993.7	955.3	950.1	1051.0
5°	1175.2	1106.0	1104.6	1105.5	1108.3	1076.1	1154.8	1195.5	1204.5	1246.2	1345.3
7.5°	1236.8	1208.8	1180.4	1194.6	1158.6	1161.9	1258.6	1364.7	1389.8	1420.1	1555.7
10°	1224.0	1197.4	1206.0	1208.3	1215.0	1268.5	1330.6	1432.5	1453.8	1550.4	1585.5
12.5°	1225.9	1221.1	1260.9	1262.3	1333.4	1429.6	1454.3	1548.1	1556.6	1627.7	1774.1
15°	1290.8	1323.5	1301.2	1313.0	1326.8	1441.9	1477.5	1612.0	1663.2	1754.7	1864.6
17.5°	1417.3	1426.8	1360.0	1342.4	1387.4	1422.5	1503.5	1561.8	1615.4	1870.8	2022.4
20°	1446.7	1472.3	1392.7	1302.1	1397.4	1446.2	1502.6	1529.1	1570.8	1887.8	2103.0
22.5°	1572.7	1519.6	1423.5	1344.8	1376.1	1423.5	1464.2	1564.2	1673.6	1839.0	2183.5
25°	1644.3	1613.5	1527.7	1443.4	1416.8	1418.2	1496.9	1586.5	1624.4	1910.6	2199.6
27.5°	1817.2	1767.9	1575.1	1559.0	1459.0	1381.3	1502.1	1641.4	1707.8	1854.7	2278.3
30°	2033.8	1996.3	1743.3	1722.0	1569.4	1433.9	1568.5	1682.2	1672.7	1891.1	2332.8
32.5°	2209.1	2271.6	2016.2	1848.0	1739.5	1609.7	1547.6	1675.1	1769.4	1976.0	2425.2
35°	2459.3	2518.1	2229.0	2115.3	1879.8	1691.2	1693.1	1772.7	1831.0	2075.0	2528.5
37.5°	2892.4	2840.7	2608.1	2428.5	2277.8	1996.3	1912.0	1884.0	1930.9	2196.3	2730.8
40°	3204.7	3161.1	2887.2	2784.8	2491.5	2328.0	2096.8	2070.3	2153.2	2321.4	2896.2
42.5°	3574.7	3497.0	3242.1	3157.8	2851.2	2556.4	2323.3	2338.5	2378.7	2557.4	3119.8
45°	3951.5	3762.9	3618.3	3611.7	3407.0	3000.0	2686.7	2674.4	2675.8	2904.7	3371.0
47.5°	4250.5	4080.8	3915.4	3836.8	3733.5	3767.1	3214.6	3070.1	3026.5	3254.4	3747.7
50°	4452.8	4257.6	4070.4	4051.9	4327.7	4509.2	3710.3	3555.8	3582.8	3754.8	4250.0
52.5°	4457.1	4225.3	4030.1	4159.5	4809.1	5068.8	4564.1	4132.5	4218.7	4335.8	4905.3
55°	4147.2	3906.9	3779.9	4074.7	4997.2	5732.7	5763.9	5056.5	4957.0	5000.1	5688.6
57.5°	3493.7	3251.1	3177.2	3530.2	4640.4	6372.8	7213.0	6160.6	5868.7	5688.6	6491.3
60°	2629.9	2420.0	2374.0	2599.1	3847.2	6184.7	8386.2	7534.7	6940.0	6457.7	7296.4
62.5°	1972.2	1821.5	1752.3	1784.5	2662.1	5573.0	9156.7	9270.9	8428.9	7297.3	8083.0
65°	1602.6	1480.8	1419.2	1377.5	1655.6	4309.2	9017.4	10732.3	10167.9	8179.2	8695.2
67.5°	1338.6	1230.6	1202.2	1242.9	1308.8	2500.0	7927.6	11549.7	11588.1	9049.2	9053.0
70°	1111.2	1031.1	1020.7	1136.3	1223.0	1508.7	5726.0	11292.9	11716.5	9701.7	8969.1
72.5°	858.6	815.5	814.1	995.6	1215.0	1286.0	3409.8	9755.7	10324.8	9493.2	8148.4
75°	595.6	565.8	588.5	818.3	1187.0	1304.5	1946.1	7598.7	8024.7	8078.2	6527.3
77.5°	409.9	384.8	409.4	591.8	1060.0	1335.8	1361.4	5494.3	5541.7	5417.1	3738.7
80°	285.3	267.7	286.7	418.9	825.0	1322.0	1159.0	3459.1	3173.9	2417.6	1197.0
82.5°	176.7	171.5	192.4	298.5	580.9	1202.6	1098.4	1785.0	1362.8	667.2	427.4
85°	92.9	85.3	111.8	194.8	363.4	943.9	1029.2	814.6	526.0	236.9	171.5
87.5°	27.5	24.6	43.1	78.7	154.0	423.2	589.0	345.4	196.2	69.7	53.5
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°	868.1	868.1	868.1	868.1	868.1	868.1	868.1	868.1	868.1	868.1	868.1
2.5°	1058.1	1052.9	982.8	991.8	1006.9	1010.7	1010.3	984.7	957.7	1033.0	1030.6
5°	1347.6	1300.7	1265.7	1258.1	1215.0	1171.8	1187.0	1181.8	1175.2	1209.3	1213.5
7.5°	1556.1	1491.2	1450.5	1345.7	1246.2	1160.0	1187.5	1196.0	1178.9	1240.5	1259.0
10°	1611.1	1559.9	1515.9	1381.3	1326.3	1276.1	1201.7	1116.9	1105.5	1070.0	1074.2
12.5°	1752.8	1745.7	1595.5	1477.0	1405.4	1305.5	1144.8	1042.0	953.9	958.1	932.5
15°	1864.6	1868.4	1687.9	1522.0	1330.1	1177.5	988.5	860.5	770.0	752.0	733.5
17.5°	2014.8	2007.2	1695.4	1468.0	1224.9	1001.3	769.5	642.5	627.4	637.8	621.7
20°	2080.2	2013.4	1647.1	1333.9	1060.5	760.5	581.4	514.1	543.5	585.2	586.2
22.5°	2139.0	2024.8	1622.0	1225.9	841.6	553.0	466.7	454.4	489.0	545.4	550.1
25°	2136.6	2077.4	1577.0	1116.9	652.5	431.7	405.6	414.6	455.8	514.6	517.9
27.5°	2244.2	2037.1	1459.9	973.8	491.4	369.6	376.2	392.8	412.3	468.2	479.1
30°	2243.2	2112.0	1401.2	799.9	394.7	338.8	355.9	370.1	386.2	437.4	443.5
32.5°	2296.3	2063.2	1365.6	622.2	354.0	331.2	335.5	349.7	372.9	407.5	411.8
35°	2360.3	2118.6	1251.9	494.2	338.8	324.6	327.9	336.0	357.3	389.0	393.3
37.5°	2565.4	2129.0	1206.9	416.5	337.9	321.7	321.3	325.5	349.7	378.6	391.4
40°	2645.5	2224.3	1075.6	389.0	334.5	321.7	315.1	317.5	337.4	374.3	384.3
42.5°	2837.4	2256.0	978.5	379.6	334.5	316.1	305.6	309.4	332.6	365.3	381.0
45°	3035.0	2301.0	862.9	377.7	334.1	315.6	295.7	304.2	323.2	350.7	367.7
47.5°	3316.5	2463.1	747.3	372.0	330.3	318.0	293.3	292.8	309.4	333.1	349.2
50°	3775.7	2716.1	657.7	364.9	330.7	316.1	288.6	281.9	292.8	313.7	329.3
52.5°	4414.9	3147.3	622.6	361.1	327.0	308.5	280.5	270.1	276.3	292.8	308.0
55°	5156.9	3729.7	657.2	361.1	319.4	296.6	269.1	256.8	260.1	271.5	286.2
57.5°	6024.1	4453.3	824.5	355.9	309.9	282.4	255.4	241.2	242.1	252.1	265.4
60°	6929.6	5261.7	1199.3	351.6	303.3	266.8	239.3	224.6	223.2	232.7	244.5
62.5°	7836.6	6007.5	1593.6	361.5	301.4	253.5	222.2	207.5	207.1	215.6	225.6
65°	8557.8	6517.4	1691.7	401.8	313.7	238.3	204.7	191.0	190.0	197.1	208.0
67.5°	8911.7	6591.3	1285.1	452.1	339.8	224.1	187.6	174.9	173.9	181.5	191.0
70°	8649.7	6086.2	793.2	457.3	338.3	207.5	170.1	159.2	157.3	165.4	172.5
72.5°	7680.2	5323.7	602.7	404.7	292.8	183.9	152.6	143.1	140.3	147.4	154.0
75°	6164.3	4226.8	482.9	326.5	230.8	154.9	135.0	126.0	122.7	129.4	135.0
77.5°	3590.9	2377.8	353.0	254.9	174.4	126.5	115.1	107.1	103.3	110.4	114.7
80°	1167.6	792.3	221.8	182.9	127.5	99.0	93.3	87.7	83.9	88.6	90.0
82.5°	419.4	294.7	122.7	112.3	84.8	71.1	70.6	67.3	62.5	64.4	64.4
85°	185.8	134.6	73.0	60.2	50.7	37.9	44.5	42.2	37.4	36.5	35.1
87.5°	52.1	44.5	26.5	20.4	16.6	6.2	14.2	12.8	10.4	9.5	6.6
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)