

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: LUMARK

Report Number: P195891

Luminaire Tested: **NAV-AF-03-D-UNV-T4W-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195891
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-T4W-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11794 lumens
Efficiency: N/A
Efficacy: 122.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

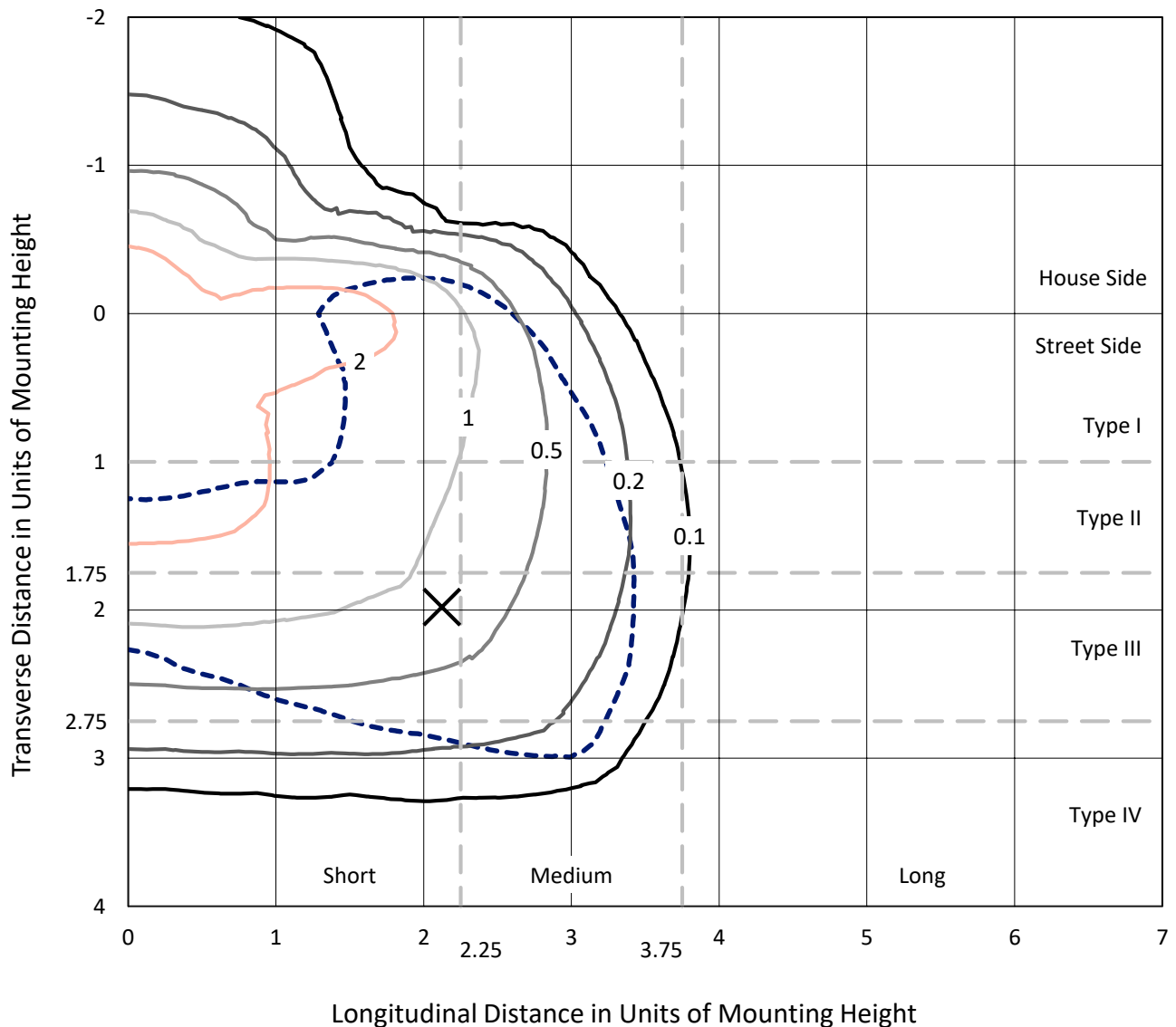
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

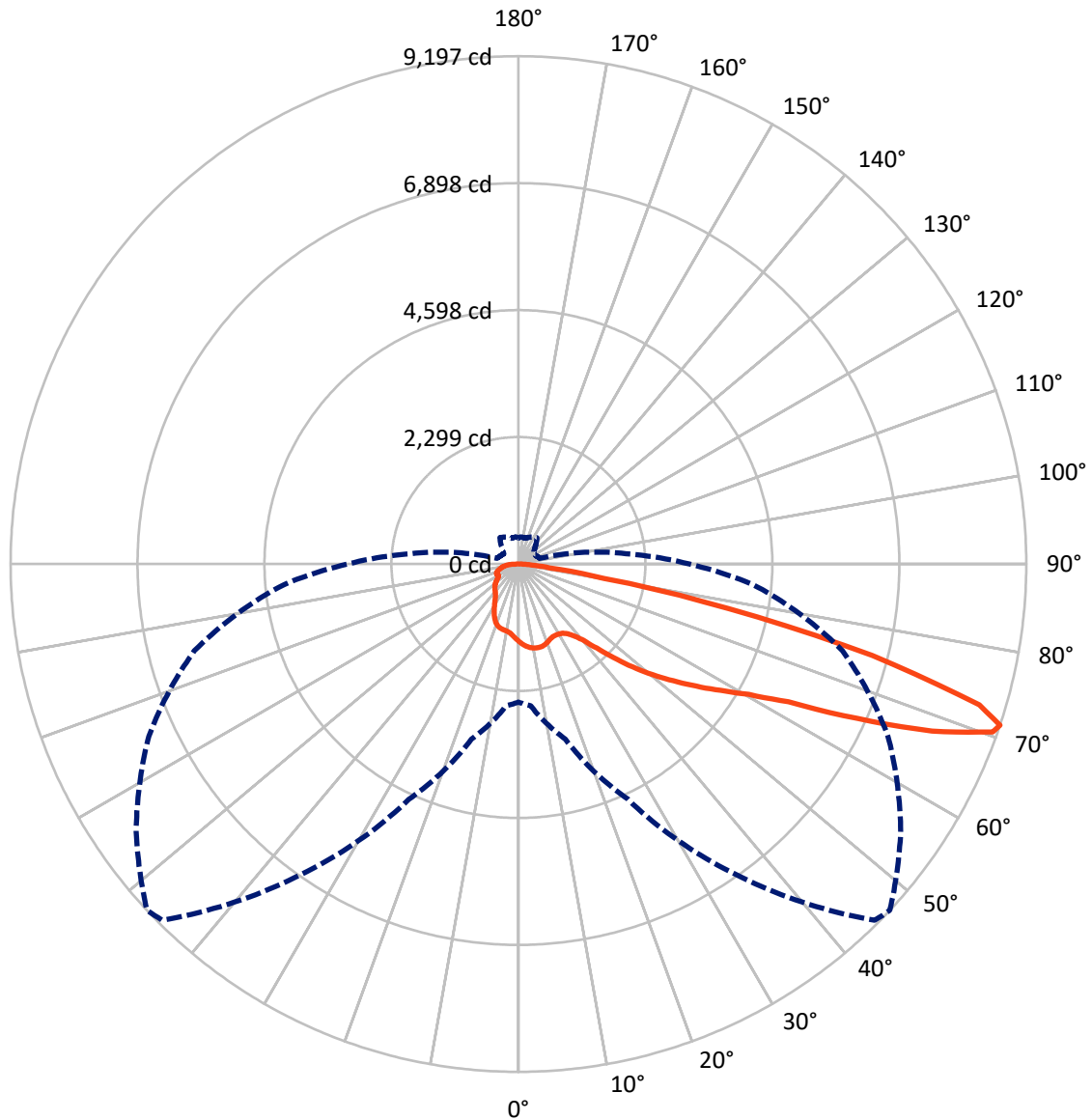
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2527.6	0.0	2527.6
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	9266.4	0.0	9266.4
	% Fixture	78.6	0.0	78.6
Total	Lumens	11794.0	0.0	11794.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.9	1.1
10°-20°	391.8	3.3
20°-30°	582.1	4.9
30°-40°	835.9	7.1
40°-50°	1482.0	12.6
50°-60°	2536.0	21.5
60°-70°	3600.2	30.5
70°-80°	1971.8	16.7
80°-90°	260.3	2.2
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°	11794.0	100.0
0°-180°	11794.0	100.0



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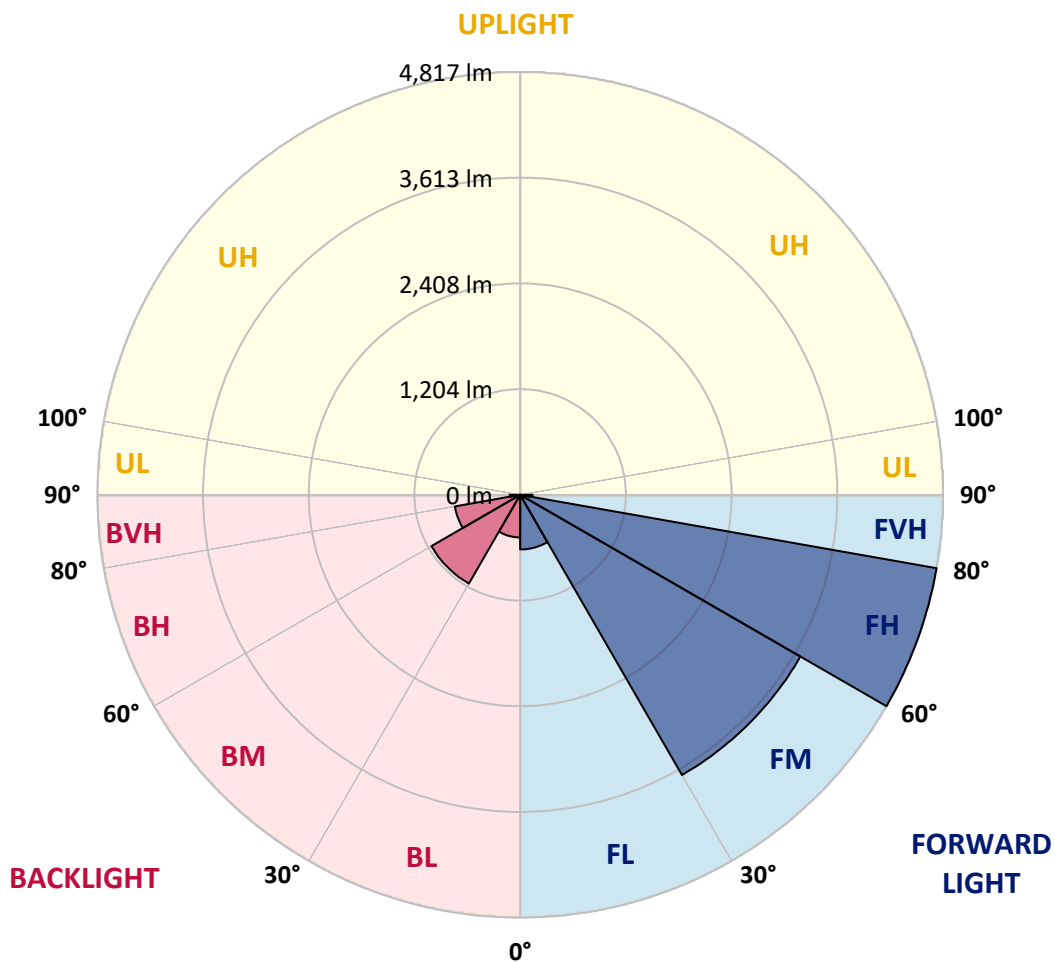
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	622.4	5.3			
FM	(30°-60°)	3686.0	31.3			
FH	(60°-80°)	4816.8	40.8			G2/5000
FVH	(80°-90°)	141.2	1.2			G2/225
BL	(0°-30°)	485.4	4.1	B1/500		
BM	(30°-60°)	1167.9	9.9	B2/2500		
BH	(60°-80°)	755.2	6.4	B2/1000		G2/1000
BVH	(80°-90°)	119.1	1.0			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5
2.5°	1488.1	1485.0	1486.6	1481.2	1468.2	1454.5	1454.5	1440.0	1424.7	1409.4	1392.6
5°	1580.6	1576.0	1572.2	1555.4	1530.1	1501.9	1497.3	1468.2	1436.9	1405.6	1375.0
7.5°	1657.8	1653.2	1641.7	1611.2	1574.5	1532.4	1527.1	1488.9	1447.6	1404.0	1361.2
10°	1712.8	1709.8	1687.6	1648.6	1605.8	1556.1	1547.0	1508.0	1459.1	1404.8	1350.5
12.5°	1743.4	1738.8	1712.0	1666.2	1615.7	1565.3	1556.1	1518.7	1462.9	1403.3	1339.8
15°	1731.2	1728.9	1703.6	1657.0	1606.6	1563.0	1555.4	1517.2	1460.6	1397.9	1329.9
17.5°	1679.2	1684.5	1664.7	1618.8	1577.5	1547.0	1538.6	1502.6	1449.1	1384.9	1314.6
20°	1607.3	1613.5	1603.5	1556.9	1533.2	1513.3	1508.7	1479.7	1430.0	1365.8	1296.3
22.5°	1530.9	1536.3	1537.0	1493.5	1485.8	1478.2	1474.3	1453.7	1413.2	1354.4	1284.0
25°	1478.2	1484.3	1485.8	1447.6	1452.2	1454.5	1453.7	1439.2	1410.1	1354.4	1285.6
27.5°	1464.4	1467.5	1465.9	1430.8	1439.2	1452.2	1452.9	1449.9	1422.4	1369.6	1307.0
30°	1511.8	1513.3	1494.2	1441.5	1449.9	1466.7	1467.5	1465.9	1448.4	1409.4	1355.1
32.5°	1716.6	1715.1	1649.4	1513.3	1484.3	1490.4	1492.7	1506.4	1508.0	1475.1	1424.7
35°	2028.5	2027.7	1951.3	1718.9	1582.1	1550.0	1553.1	1574.5	1593.6	1571.4	1542.4
37.5°	2371.6	2373.9	2327.3	2012.4	1793.1	1659.3	1656.3	1672.3	1706.7	1714.3	1718.2
40°	2752.3	2763.7	2761.4	2349.5	2088.9	1845.8	1815.2	1796.9	1863.4	1905.4	1959.7
42.5°	3187.2	3184.1	3185.6	2719.4	2426.7	2139.3	2082.7	1997.1	2074.3	2146.9	2266.2
45°	3560.9	3573.1	3582.3	3113.0	2805.0	2474.8	2417.5	2261.6	2331.1	2439.7	2621.6
47.5°	3936.9	3915.5	3932.4	3551.0	3226.1	2857.7	2783.6	2573.4	2638.4	2791.3	3067.9
50°	4374.9	4365.0	4288.5	4122.7	3735.2	3246.0	3148.9	2899.0	2993.8	3197.9	3619.0
52.5°	4767.7	4714.2	4654.6	4572.1	4235.8	3638.9	3515.8	3237.6	3411.9	3664.9	4303.1
55°	4911.4	4875.5	4947.4	5054.4	4765.5	4039.4	3901.8	3632.8	3883.4	4199.1	5107.9
57.5°	5064.3	5076.5	5238.6	5454.9	5266.8	4466.6	4317.6	4100.5	4400.9	4796.8	6007.5
60°	5140.7	5189.6	5512.9	5918.8	5743.8	4935.1	4792.2	4637.8	4974.9	5457.2	6904.8
62.5°	5153.7	5219.5	5677.3	6081.6	6400.3	5652.8	5487.7	5320.3	5691.8	6187.1	7554.4
65°	4915.3	5016.1	5662.8	6281.8	6998.8	6852.0	6747.3	6455.3	6651.8	6829.9	7665.2
67.5°	4214.4	4324.5	5102.5	6199.3	7478.7	8096.3	8076.4	7645.4	7393.1	7078.3	6843.6
70°	3093.2	3181.8	3929.3	5299.7	7269.3	9073.1	9108.3	8416.6	7600.3	6550.9	5088.8
71°	2501.6	2578.0	3282.7	4705.1	6861.2	9123.5	9196.9	8450.9	7384.7	6074.7	4260.2
72.5°	1556.9	1599.7	2179.8	3551.0	5908.1	8603.8	8727.6	8010.7	6706.0	5134.6	3011.4
75°	587.8	604.6	808.6	1566.1	3526.5	6463.7	6613.6	6054.1	4711.2	2931.1	1260.3
77.5°	315.7	324.1	401.3	651.2	1413.2	3705.4	3898.0	3453.1	2260.1	1025.7	515.1
80°	211.7	217.1	277.4	386.0	649.7	1410.9	1571.4	1386.5	846.1	585.5	366.9
82.5°	136.8	139.9	188.8	253.8	419.6	496.0	566.4	591.6	528.1	419.6	221.6
85°	90.2	92.5	124.6	162.0	259.9	244.6	250.7	327.9	360.0	276.7	113.1
87.5°	52.0	53.5	74.9	83.3	116.9	91.7	99.4	155.9	214.0	180.4	65.0
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°	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5
2.5°	1384.9	1378.8	1365.1	1356.6	1352.8	1351.3	1349.8	1352.8	1352.8	1351.3	1348.2
5°	1359.7	1348.2	1325.3	1309.3	1300.9	1298.6	1301.6	1305.4	1307.7	1307.7	1305.4
7.5°	1341.4	1324.5	1294.0	1271.8	1258.8	1255.0	1263.4	1277.2	1286.3	1290.9	1291.7
10°	1326.1	1303.1	1269.5	1246.6	1235.9	1234.4	1245.1	1262.6	1281.7	1290.2	1291.7
12.5°	1312.3	1286.3	1249.6	1228.2	1220.6	1224.4	1238.9	1255.0	1277.2	1289.4	1290.2
15°	1299.3	1272.6	1233.6	1211.4	1209.9	1216.0	1229.8	1242.8	1259.6	1274.9	1274.9
17.5°	1284.0	1255.0	1214.5	1193.8	1193.8	1199.2	1208.4	1215.2	1225.9	1240.5	1239.7
20°	1265.7	1235.9	1194.6	1173.2	1168.6	1165.6	1165.6	1167.1	1176.3	1189.3	1191.6
22.5°	1251.9	1221.4	1177.8	1151.8	1131.2	1111.3	1102.9	1099.8	1108.2	1120.5	1123.5
25°	1251.9	1221.4	1172.4	1128.9	1078.4	1040.2	1024.2	1019.6	1028.0	1039.5	1044.0
27.5°	1272.6	1242.0	1184.7	1108.2	1015.8	954.6	935.5	931.7	939.3	948.5	953.1
30°	1320.7	1290.9	1219.8	1084.6	946.2	866.0	844.6	840.7	844.6	848.4	853.7
32.5°	1401.0	1375.8	1277.2	1063.2	875.9	785.7	759.7	753.6	755.1	755.9	760.5
35°	1531.7	1520.2	1353.6	1037.9	809.4	720.0	693.2	681.0	680.2	684.1	689.4
37.5°	1731.9	1738.8	1452.2	1001.2	754.4	673.4	646.6	634.4	628.3	635.9	642.0
40°	2014.7	2030.8	1566.1	951.6	709.3	645.8	617.6	606.1	597.7	595.4	598.5
42.5°	2382.3	2377.8	1682.2	888.1	660.4	627.5	597.7	585.5	571.7	554.1	550.3
45°	2818.0	2752.3	1779.3	810.2	604.6	609.9	579.3	562.5	541.1	515.1	512.1
47.5°	3332.4	3151.2	1838.9	726.9	552.6	587.0	558.7	532.7	501.4	484.6	482.3
50°	3952.2	3618.2	1881.0	642.0	506.0	557.9	529.7	495.3	464.7	460.1	459.3
52.5°	4686.0	4169.3	1932.9	565.6	469.3	520.5	500.6	465.5	441.0	443.3	443.3
55°	5466.3	4739.5	1934.5	505.2	437.2	476.9	479.2	450.9	431.8	439.5	441.8
57.5°	6177.9	5237.8	1782.4	462.4	406.6	442.5	472.3	456.3	441.8	468.5	470.8
60°	6798.5	5621.5	1455.2	427.2	381.4	429.5	487.6	489.2	486.1	558.7	564.1
62.5°	7025.5	5625.3	1033.3	397.4	367.6	437.2	519.7	522.0	522.0	589.3	599.2
65°	6707.6	5156.8	687.9	379.9	358.5	454.0	545.7	535.8	512.1	558.7	548.0
67.5°	5587.1	4014.1	502.9	368.4	345.5	454.8	568.6	543.4	502.9	542.7	524.3
70°	3839.9	2554.3	421.1	357.7	330.2	434.9	580.9	541.1	489.2	506.0	481.5
71°	3090.9	2038.4	399.7	353.9	324.1	423.4	582.4	538.1	482.3	493.0	470.8
72.5°	2036.1	1255.8	373.7	345.5	314.9	403.6	578.6	531.2	473.1	473.9	459.3
75°	803.3	520.5	336.3	326.4	288.9	371.5	561.8	516.7	455.5	440.2	434.1
77.5°	405.8	340.1	295.8	299.6	258.3	338.6	538.1	493.0	431.1	410.4	405.8
80°	296.6	258.3	253.0	259.9	223.9	306.5	508.3	460.9	399.7	421.1	412.0
82.5°	180.4	157.4	198.0	214.8	187.3	273.6	473.1	423.4	360.0	331.7	321.0
85°	85.6	92.5	142.9	158.2	138.3	218.6	432.6	382.2	314.1	271.3	275.9
87.5°	42.0	51.2	81.8	94.8	91.0	160.5	326.4	296.6	247.6	204.1	199.5
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)