

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: P195878

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195878
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-T4FT-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12277 lumens
Efficiency: N/A
Efficacy: 108.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G2

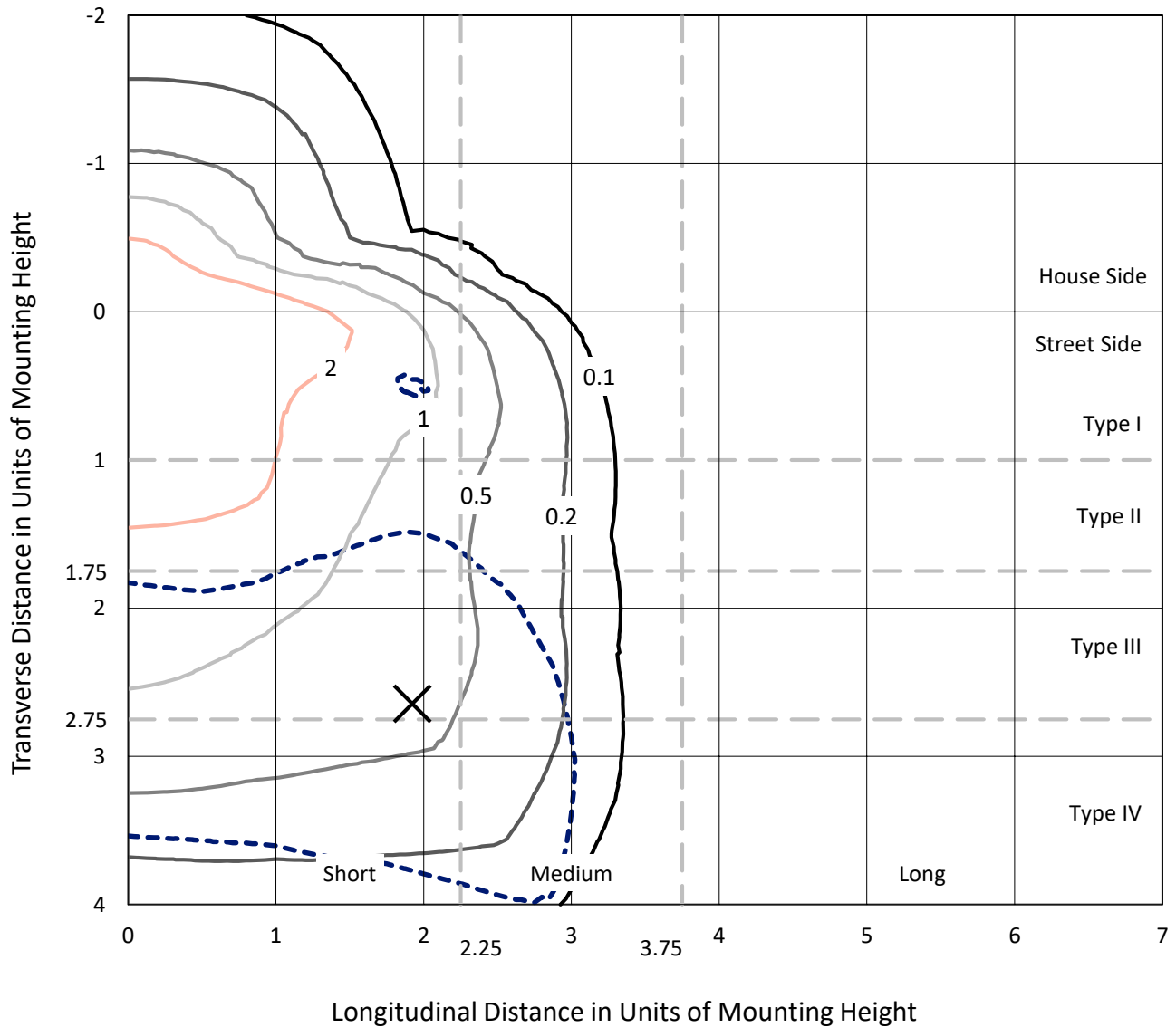
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

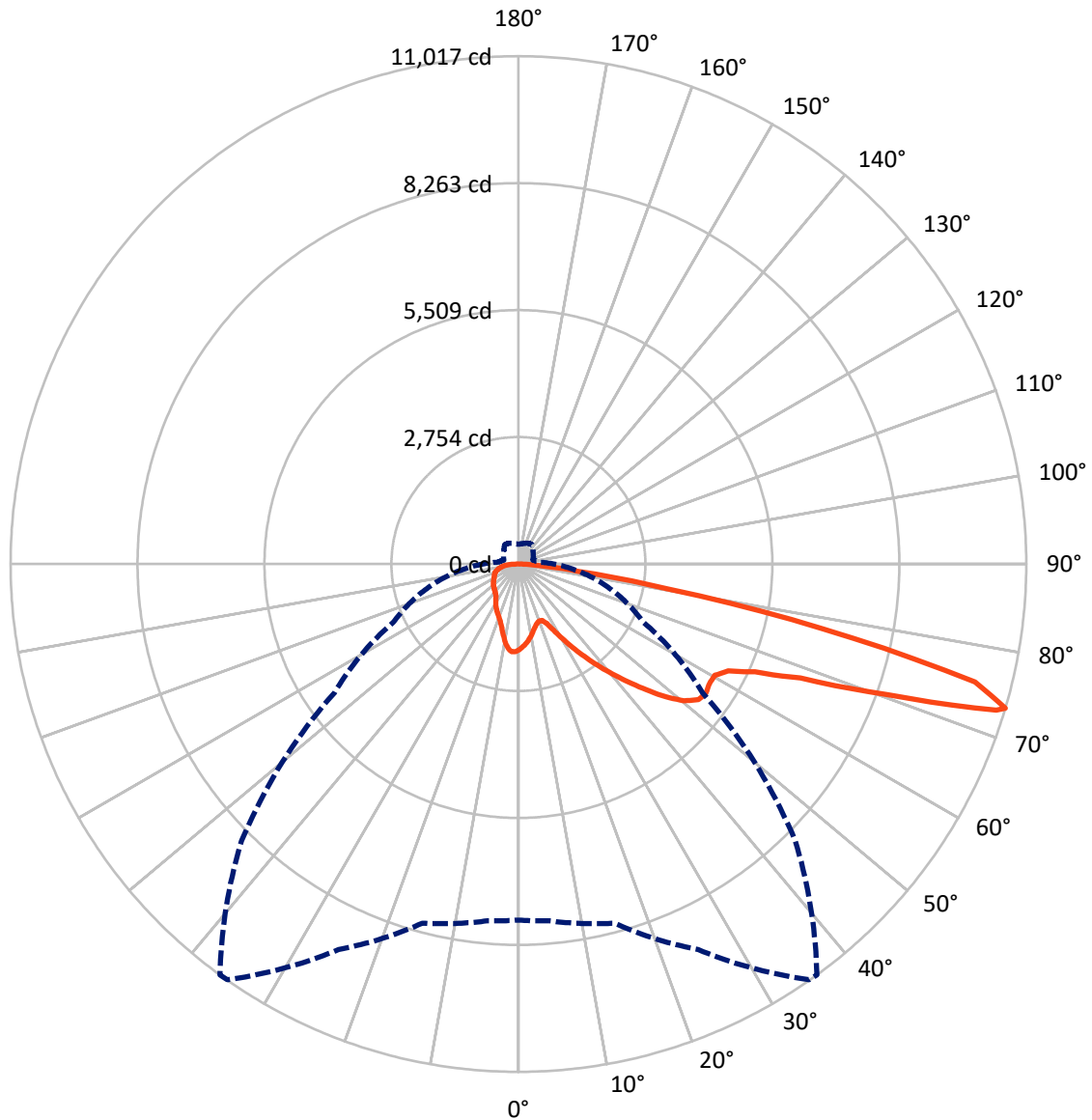
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.6 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2367.4	0.0	2367.4
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	9909.6	0.0	9909.6
	% Fixture	80.7	0.0	80.7
Total	Lumens	12277.0	0.0	12277.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.9	1.4
10°-20°	424.2	3.5
20°-30°	680.1	5.5
30°-40°	1125.0	9.2
40°-50°	1740.8	14.2
50°-60°	2330.4	19.0
60°-70°	3044.2	24.8
70°-80°	2486.6	20.3
80°-90°	276.8	2.3
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°	12277.0	100.0
0°-180°	12277.0	100.0



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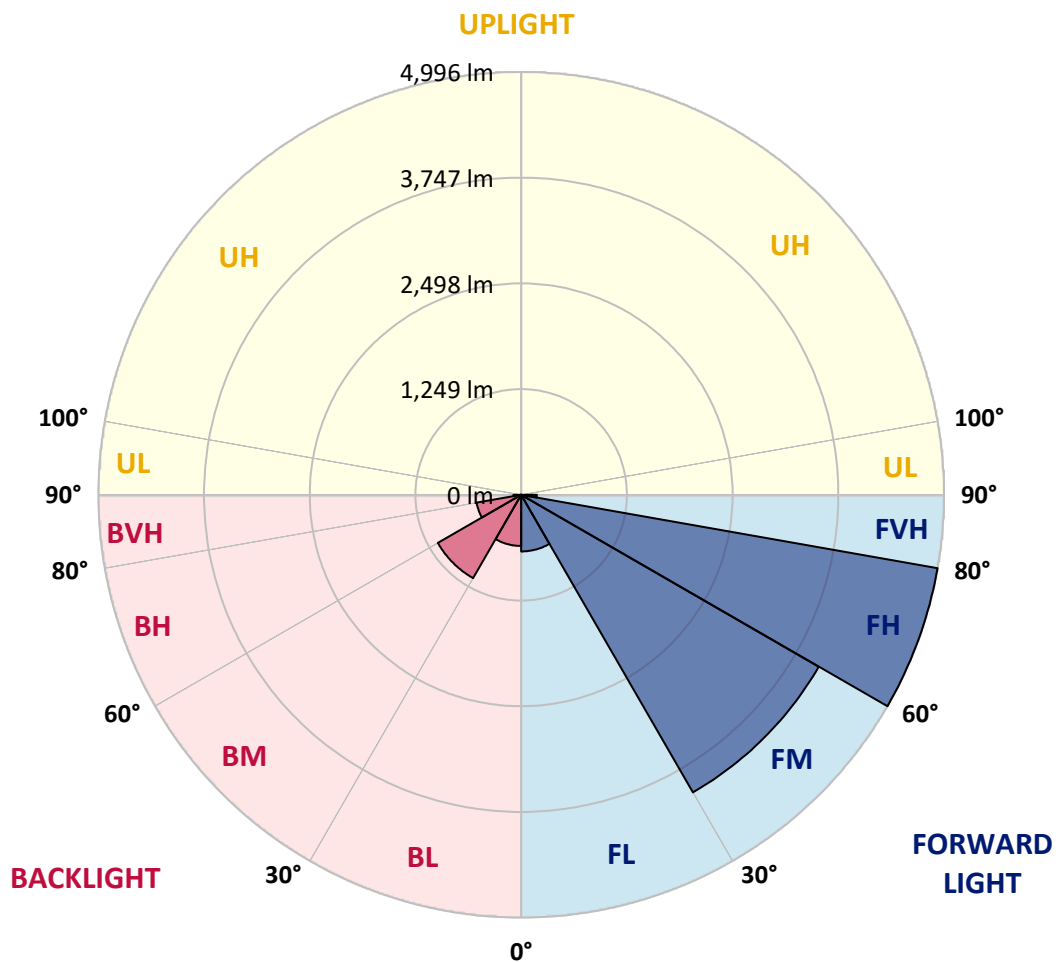
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	669.0	5.4			
FM (30°-60°)	4059.2	33.1			
FH (60°-80°)	4995.8	40.7			G2/5000
FVH (80°-90°)	185.6	1.5			G2/225
BL (0°-30°)	604.3	4.9	B2/1000		
BM (30°-60°)	1136.9	9.3	B2/2500		
BH (60°-80°)	535.0	4.4	B2/1000		G2/1000
BVH (80°-90°)	91.2	0.7			G1/100
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°	36°	45°	55°	65°	75°	85°
0°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1788.6	1793.3	1794.1	1799.5	1799.5	1798.8	1801.1	1810.5	1815.1	1826.1	1835.4
5°	1700.5	1705.9	1708.3	1717.6	1729.3	1730.1	1738.7	1756.6	1773.8	1798.0	1818.3
7.5°	1601.4	1607.7	1613.9	1633.4	1650.6	1652.1	1668.5	1697.4	1720.0	1749.6	1786.3
10°	1505.5	1507.0	1513.3	1538.2	1560.9	1563.2	1586.6	1619.4	1649.8	1691.1	1732.5
12.5°	1426.7	1431.4	1429.8	1448.5	1468.0	1469.6	1500.8	1542.1	1586.6	1633.4	1682.5
15°	1399.4	1398.6	1382.2	1381.4	1390.0	1391.6	1422.0	1470.4	1520.3	1578.0	1641.2
17.5°	1418.1	1411.9	1369.0	1342.4	1337.0	1338.5	1361.2	1414.2	1467.2	1533.6	1609.2
20°	1521.1	1496.9	1396.3	1332.3	1314.4	1314.4	1327.6	1370.5	1429.0	1506.3	1601.4
22.5°	1765.2	1727.8	1513.3	1399.4	1336.2	1330.0	1319.8	1352.6	1417.3	1510.2	1633.4
25°	2072.6	2054.6	1727.8	1578.0	1447.7	1427.5	1360.4	1372.1	1441.5	1552.3	1720.8
27.5°	2357.3	2326.1	2009.4	1837.8	1653.7	1622.5	1480.5	1432.9	1499.2	1630.3	1847.1
30°	2523.4	2502.4	2298.8	2135.0	1915.8	1876.0	1672.4	1553.1	1602.2	1759.0	2026.5
32.5°	2704.4	2691.9	2588.9	2440.0	2199.7	2153.7	1920.5	1748.8	1759.8	1929.8	2242.6
35°	2879.9	2896.3	2837.8	2728.6	2505.5	2462.6	2253.5	2004.7	1954.0	2121.7	2473.5
37.5°	3090.5	3094.4	3057.7	2986.8	2826.9	2791.8	2619.4	2277.7	2165.4	2326.1	2696.6
40°	3510.9	3449.3	3305.8	3249.6	3154.5	3132.6	2936.1	2528.1	2362.0	2535.9	2907.2
42.5°	3965.7	3869.8	3645.1	3553.1	3514.8	3494.6	3199.7	2695.0	2546.0	2745.7	3113.9
45°	4332.3	4254.3	4034.4	3920.5	3925.1	3892.4	3429.8	2844.0	2745.7	2956.3	3344.8
47.5°	4693.5	4563.2	4316.7	4300.3	4354.9	4306.6	3649.8	2993.0	2954.0	3185.7	3575.7
50°	4716.9	4598.3	4498.5	4629.5	4723.1	4663.1	3849.5	3188.0	3170.1	3463.4	3873.7
52.5°	4432.2	4415.0	4567.1	4787.9	4943.1	4889.3	4012.5	3388.5	3390.8	3810.5	4236.4
55°	4328.4	4306.6	4489.1	4760.6	4970.4	4938.4	4134.2	3614.7	3635.8	4231.7	4625.6
57.5°	4503.2	4448.6	4484.4	4709.1	4906.4	4887.7	4260.6	3865.9	3904.1	4716.9	4985.2
60°	5045.3	4933.7	4743.4	4785.5	4908.8	4897.9	4441.5	4145.9	4209.9	5222.3	5213.0
62.5°	5857.3	5730.9	5343.3	5156.0	5128.7	5107.7	4740.3	4489.9	4521.9	5587.4	5080.4
65°	6748.1	6612.4	6151.4	5844.8	5684.1	5638.9	5222.3	4904.9	4704.4	5586.6	4564.0
67.5°	7748.1	7604.6	7145.1	6852.6	6678.7	6601.5	6004.7	5240.3	4645.1	5113.9	3652.1
70°	8772.3	8635.8	8425.2	8527.4	8603.8	8486.0	7237.2	5351.8	4219.2	4009.4	2452.4
72.5°	8228.6	8217.7	8377.6	9346.4	10819.9	10843.3	8468.1	5036.7	3259.8	2383.0	1307.3
73°	7723.9	7769.9	8066.4	9225.5	11009.4	11017.2	8492.3	4873.7	2993.0	2053.1	1148.2
75°	4001.6	4313.6	5413.5	7480.6	10194.3	10231.0	7486.0	3689.6	1783.9	1140.4	773.8
77.5°	1071.8	1057.7	1744.2	3644.3	6796.5	6748.1	4730.1	1786.3	854.9	715.3	542.9
80°	367.4	372.1	593.6	1333.1	3172.4	3285.5	2053.1	779.3	562.4	498.4	384.6
82.5°	187.2	193.4	310.5	567.1	1326.8	1298.8	660.7	458.7	376.8	302.7	215.3
85°	99.8	103.0	170.8	294.1	486.7	492.2	232.5	244.9	239.5	171.6	106.1
87.5°	49.1	50.7	81.9	129.5	180.2	173.9	81.1	106.1	117.8	96.7	58.5
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°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1847.1	1847.1	1857.3	1874.4	1886.9	1898.6	1906.4	1918.9	1925.9	1925.1	1924.4
5°	1834.6	1842.4	1862.7	1883.8	1897.8	1907.2	1907.2	1912.7	1912.7	1910.3	1907.2
7.5°	1805.8	1819.0	1848.7	1867.4	1871.3	1861.2	1840.9	1825.3	1805.8	1795.6	1791.7
10°	1759.8	1776.9	1814.4	1822.9	1802.7	1766.8	1717.6	1675.5	1638.1	1620.9	1615.5
12.5°	1714.5	1737.1	1772.2	1759.0	1710.6	1640.4	1564.8	1507.0	1464.9	1448.5	1443.1
15°	1677.1	1704.4	1731.7	1690.3	1606.1	1508.6	1425.1	1371.3	1339.3	1326.8	1323.7
17.5°	1652.1	1684.1	1693.5	1616.2	1499.2	1390.0	1315.9	1280.8	1266.8	1261.3	1259.8
20°	1653.7	1689.6	1666.9	1544.5	1396.3	1286.3	1237.1	1227.0	1227.0	1227.0	1226.2
22.5°	1696.6	1727.8	1656.0	1477.4	1297.2	1198.9	1177.9	1186.4	1192.7	1192.7	1191.9
25°	1785.5	1802.7	1663.8	1412.6	1204.4	1123.3	1124.0	1140.4	1145.9	1145.9	1144.3
27.5°	1921.2	1907.2	1677.9	1340.9	1113.1	1054.6	1065.5	1080.4	1084.3	1081.9	1081.1
30°	2091.3	2035.1	1689.6	1256.6	1027.3	990.6	1000.0	1008.6	1005.5	1000.0	999.2
32.5°	2281.6	2165.4	1682.5	1162.3	951.6	924.3	929.8	934.5	929.8	916.5	916.5
35°	2470.4	2283.2	1644.3	1059.3	891.6	860.4	859.6	874.4	873.6	858.0	858.8
37.5°	2635.7	2376.0	1570.2	964.9	840.1	813.6	816.7	826.1	830.7	809.7	807.3
40°	2780.1	2440.0	1465.7	884.6	798.8	800.3	791.7	776.9	771.5	762.1	760.5
42.5°	2915.8	2484.4	1354.9	817.5	777.7	795.6	766.8	731.7	716.9	725.4	730.9
45°	3049.2	2534.3	1248.1	762.1	751.2	781.6	741.8	702.8	685.7	689.6	695.0
47.5°	3212.2	2603.8	1119.4	702.8	710.6	755.9	726.2	684.1	658.4	642.8	638.1
50°	3426.7	2704.4	952.4	638.9	667.7	727.8	713.0	656.8	628.7	597.5	589.7
52.5°	3695.0	2799.6	783.9	587.4	632.6	703.6	691.1	633.4	599.1	561.6	555.4
55°	3962.6	2812.8	638.9	542.9	592.8	670.8	664.6	614.7	566.3	535.9	529.6
57.5°	4149.8	2687.2	541.3	505.5	554.6	630.3	640.4	592.0	539.0	515.6	511.7
60°	4152.9	2386.9	482.1	480.5	525.7	595.2	615.4	565.5	521.8	506.2	503.1
62.5°	3823.0	1923.6	443.8	461.8	504.7	566.3	596.7	550.7	517.9	511.7	508.6
65°	3204.4	1421.2	413.4	444.6	485.2	542.1	581.1	546.0	516.4	514.0	511.7
67.5°	2365.9	974.3	387.7	422.8	463.3	517.2	566.3	539.0	507.0	516.4	513.3
70°	1488.3	650.6	363.5	397.8	434.5	488.3	546.8	526.5	495.3	489.9	479.7
72.5°	840.1	470.4	334.6	365.8	397.0	450.1	520.3	505.5	468.8	447.0	436.8
73°	759.0	445.4	327.6	358.0	388.5	442.3	514.0	499.2	461.0	436.8	427.5
75°	555.4	364.3	295.6	326.1	352.6	406.4	484.4	468.0	426.7	397.8	391.6
77.5°	402.5	280.8	254.3	281.6	305.0	356.5	439.9	421.2	380.7	365.1	358.8
80°	290.2	213.0	210.6	237.1	257.4	309.7	392.4	372.9	333.9	379.9	369.7
82.5°	173.2	136.5	154.4	184.1	205.1	259.8	340.9	318.3	280.8	283.9	241.8
85°	82.7	77.2	95.9	120.9	135.7	177.8	283.9	266.0	224.7	184.1	180.2
87.5°	36.7	35.1	46.0	53.8	72.5	106.9	194.2	172.4	163.0	97.5	76.4
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)