

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: P196377

Luminaire Tested: **NAV-AF-03-D-UNV-T4W-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196377
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-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14793.9 lumens
Efficiency: N/A
Efficacy: 119.3 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 - G3

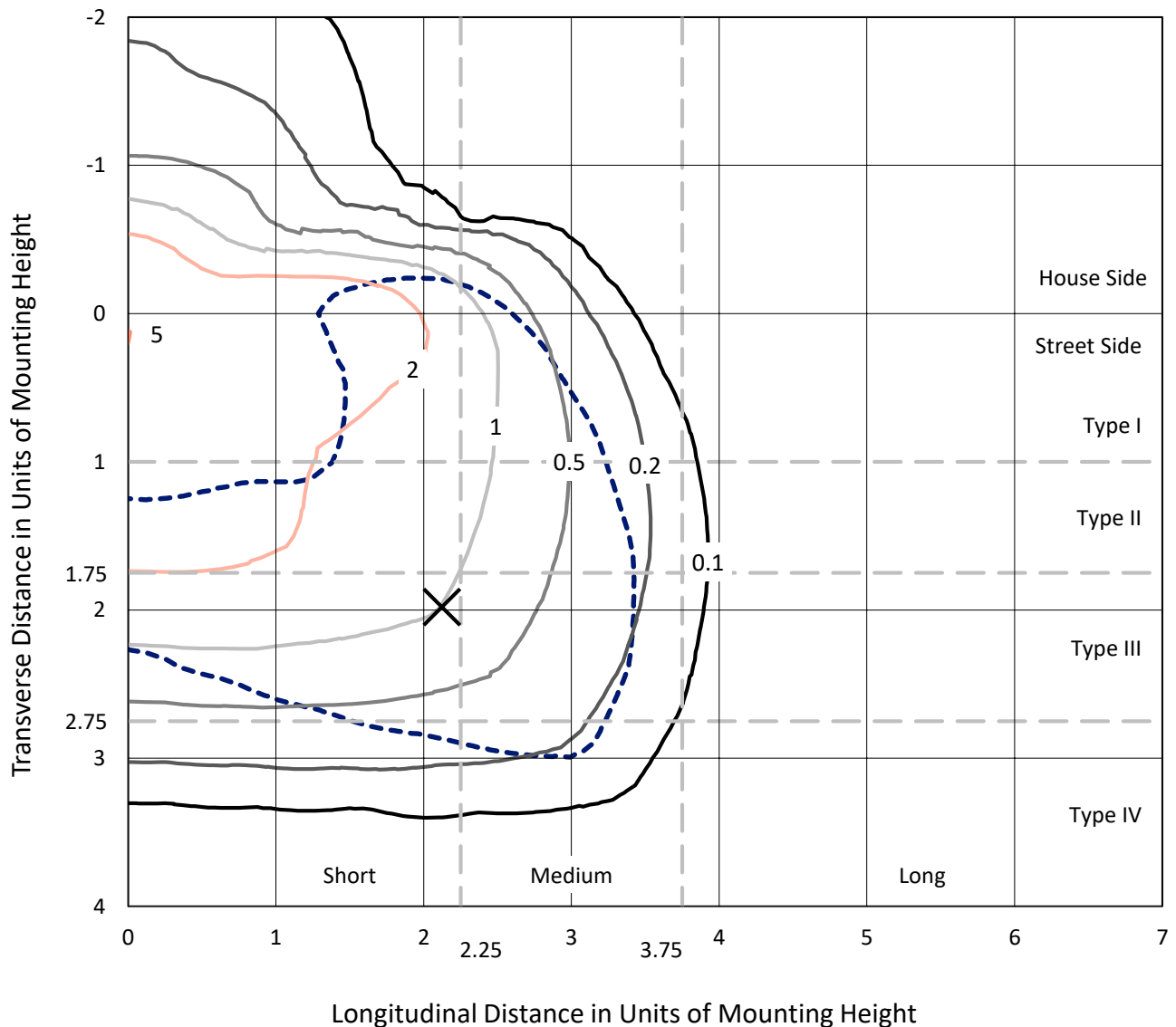
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

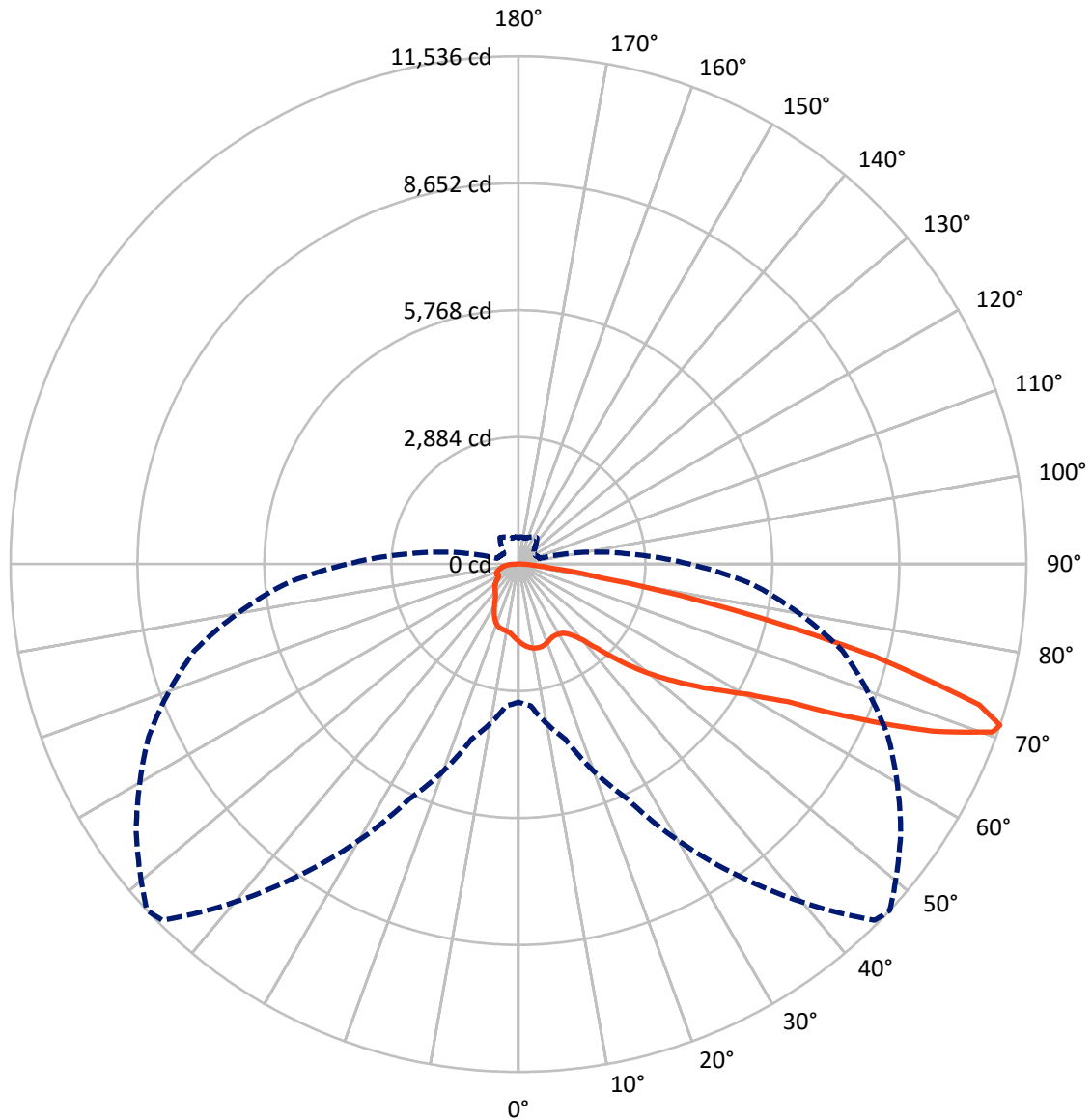
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5 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	3170.5	0.0	3170.5
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	11623.4	0.0	11623.4
	% Fixture	78.6	0.0	78.6
Total	Lumens	14793.9	0.0	14793.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.0	1.1
10°-20°	491.4	3.3
20°-30°	730.2	4.9
30°-40°	1048.5	7.1
40°-50°	1859.0	12.6
50°-60°	3181.0	21.5
60°-70°	4516.0	30.5
70°-80°	2473.3	16.7
80°-90°	326.5	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°	14793.9	100.0
0°-180°	14793.9	100.0



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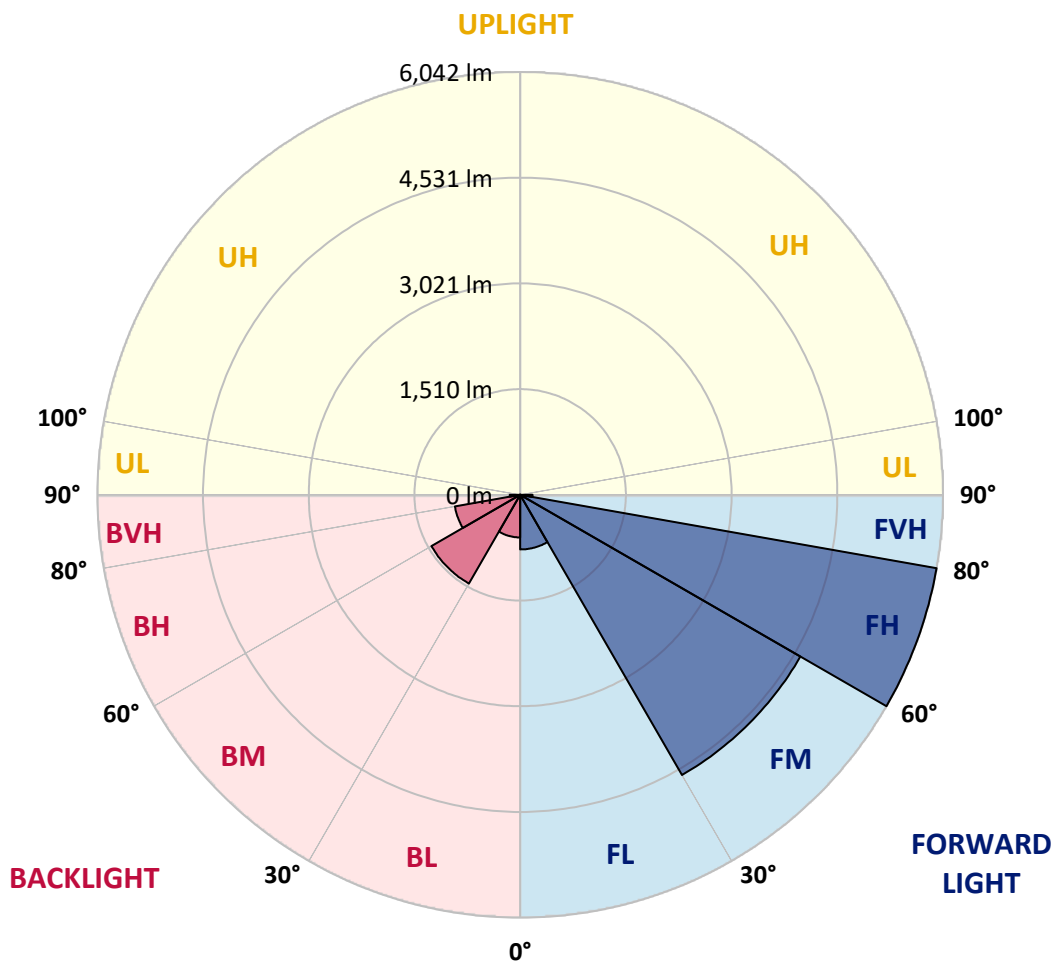
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	780.8	5.3			
FM	(30°-60°)	4623.5	31.3			
FH	(60°-80°)	6042.0	40.8			G3/7500
FVH	(80°-90°)	177.1	1.2			G2/225
BL	(0°-30°)	608.9	4.1	B2/1000		
BM	(30°-60°)	1465.0	9.9	B2/2500		
BH	(60°-80°)	947.3	6.4	B2/1000		G2/1000
BVH	(80°-90°)	149.4	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-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3
2.5°	1866.6	1862.8	1864.7	1858.0	1841.7	1824.4	1824.4	1806.2	1787.1	1767.9	1746.8
5°	1982.6	1976.9	1972.0	1951.0	1919.4	1883.9	1878.1	1841.7	1802.3	1763.1	1724.7
7.5°	2079.5	2073.7	2059.3	2020.9	1974.9	1922.2	1915.5	1867.6	1815.8	1761.1	1707.5
10°	2148.5	2144.6	2116.9	2068.0	2014.3	1952.0	1940.4	1891.5	1830.2	1762.1	1694.0
12.5°	2186.9	2181.0	2147.5	2090.0	2026.8	1963.5	1952.0	1904.9	1835.0	1760.2	1680.6
15°	2171.5	2168.7	2136.9	2078.5	2015.2	1960.6	1951.0	1903.1	1832.1	1753.5	1668.1
17.5°	2106.3	2113.0	2088.0	2030.6	1978.8	1940.4	1929.9	1884.8	1817.7	1737.2	1649.0
20°	2016.1	2023.8	2011.4	1952.9	1923.1	1898.3	1892.5	1856.0	1793.7	1713.2	1626.0
22.5°	1920.3	1927.0	1928.0	1873.3	1863.7	1854.2	1849.4	1823.5	1772.7	1698.8	1610.6
25°	1854.2	1861.9	1863.7	1815.8	1821.6	1824.4	1823.5	1805.3	1768.8	1698.8	1612.6
27.5°	1836.9	1840.7	1838.9	1794.8	1805.3	1821.6	1822.5	1818.7	1784.1	1718.0	1639.4
30°	1896.3	1898.3	1874.3	1808.2	1818.7	1839.8	1840.7	1838.9	1816.8	1767.9	1699.8
32.5°	2153.3	2151.4	2068.9	1898.3	1861.9	1869.5	1872.4	1889.6	1891.5	1850.3	1787.1
35°	2544.4	2543.5	2447.6	2156.2	1984.5	1944.3	1948.1	1974.9	1998.9	1971.1	1934.7
37.5°	2974.9	2977.8	2919.3	2524.3	2249.2	2081.4	2077.5	2097.7	2140.8	2150.4	2155.2
40°	3452.4	3466.7	3463.8	2947.1	2620.2	2315.3	2277.0	2254.0	2337.3	2390.1	2458.2
42.5°	3997.9	3994.0	3996.0	3411.1	3043.9	2683.4	2612.5	2505.1	2602.0	2693.0	2842.6
45°	4466.6	4482.0	4493.5	3904.8	3518.4	3104.3	3032.4	2836.8	2924.1	3060.3	3288.4
47.5°	4938.4	4911.5	4932.6	4454.2	4046.7	3584.6	3491.6	3228.0	3309.5	3501.3	3848.2
50°	5487.7	5475.2	5379.4	5171.3	4685.2	4071.7	3949.9	3636.4	3755.3	4011.3	4539.5
52.5°	5980.5	5913.4	5838.6	5735.1	5313.2	4564.4	4410.1	4061.1	4279.7	4597.0	5397.6
55°	6160.7	6115.6	6205.7	6339.9	5977.6	5066.8	4894.2	4556.7	4871.2	5267.2	6407.2
57.5°	6352.4	6367.8	6571.0	6842.3	6606.5	5602.7	5415.8	5143.5	5520.3	6016.9	7535.5
60°	6448.4	6509.6	6915.2	7424.3	7204.7	6190.4	6011.2	5817.5	6240.3	6845.3	8661.0
62.5°	6464.6	6547.1	7121.4	7628.6	8028.3	7090.7	6883.5	6673.6	7139.6	7760.8	9475.9
65°	6165.5	6292.1	7103.2	7879.7	8779.0	8594.9	8463.6	8097.3	8343.7	8567.1	9614.9
67.5°	5286.4	5424.4	6400.4	7776.2	9381.1	10155.7	10130.8	9590.1	9273.7	8878.7	8584.3
70°	3880.0	3991.1	4928.8	6647.7	9118.4	11380.9	11425.0	10557.4	9533.5	8217.2	6383.1
71°	3137.9	3233.8	4117.7	5901.8	8606.4	11444.2	11536.2	10600.5	9263.1	7619.9	5343.9
72.5°	1952.9	2006.6	2734.2	4454.2	7410.9	10792.2	10947.6	10048.3	8411.8	6440.7	3777.3
75°	737.2	758.3	1014.4	1964.4	4423.5	8107.9	8295.7	7594.0	5909.5	3676.7	1581.0
77.5°	396.0	406.5	503.3	816.8	1772.7	4647.9	4889.5	4331.5	2834.9	1286.6	646.2
80°	265.6	272.3	348.0	484.2	814.9	1769.8	1971.1	1739.1	1061.3	734.4	460.2
82.5°	171.7	175.4	236.8	318.3	526.3	622.2	710.4	742.0	662.5	526.3	278.0
85°	113.1	116.0	156.3	203.3	326.0	306.8	314.5	411.3	451.5	347.1	141.9
87.5°	65.2	67.1	93.9	104.5	146.7	115.1	124.6	195.6	268.4	226.3	81.5
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°	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3	1759.3
2.5°	1737.2	1729.5	1712.3	1701.7	1697.0	1695.0	1693.1	1697.0	1697.0	1695.0	1691.1
5°	1705.6	1691.1	1662.4	1642.2	1631.7	1628.8	1632.7	1637.4	1640.4	1640.4	1637.4
7.5°	1682.5	1661.5	1623.1	1595.3	1579.0	1574.2	1584.8	1602.0	1613.5	1619.2	1620.3
10°	1663.4	1634.6	1592.4	1563.7	1550.3	1548.3	1561.7	1583.8	1607.8	1618.3	1620.3
12.5°	1646.1	1613.5	1567.5	1540.7	1531.1	1535.9	1554.1	1574.2	1602.0	1617.4	1618.3
15°	1629.9	1596.2	1547.4	1519.6	1517.6	1525.3	1542.6	1558.9	1579.9	1599.2	1599.2
17.5°	1610.6	1574.2	1523.4	1497.5	1497.5	1504.2	1515.7	1524.4	1537.8	1556.0	1555.0
20°	1587.6	1550.3	1498.5	1471.6	1465.9	1462.0	1462.0	1463.9	1475.5	1491.8	1494.6
22.5°	1570.3	1532.1	1477.3	1444.8	1418.9	1394.0	1383.4	1379.6	1390.1	1405.4	1409.3
25°	1570.3	1532.1	1470.7	1416.1	1352.8	1304.8	1284.7	1278.9	1289.4	1303.9	1309.6
27.5°	1596.2	1558.0	1486.0	1390.1	1274.1	1197.5	1173.4	1168.7	1178.2	1189.8	1195.5
30°	1656.7	1619.2	1530.1	1360.4	1186.9	1086.3	1059.4	1054.6	1059.4	1064.2	1070.9
32.5°	1757.3	1725.7	1602.0	1333.6	1098.6	985.5	953.0	945.3	947.3	948.2	953.9
35°	1921.3	1906.9	1697.9	1301.9	1015.3	903.1	869.5	854.3	853.2	858.1	864.8
37.5°	2172.4	2181.0	1821.6	1255.9	946.2	844.7	811.1	795.8	788.1	797.7	805.4
40°	2527.2	2547.4	1964.4	1193.6	889.7	810.1	774.7	760.3	749.7	746.9	750.6
42.5°	2988.3	2982.5	2110.1	1114.0	828.3	787.1	749.7	734.4	717.1	695.1	690.3
45°	3534.8	3452.4	2231.9	1016.2	758.3	765.1	726.7	705.6	678.7	646.2	642.3
47.5°	4180.0	3952.8	2306.7	911.8	693.2	736.3	700.8	668.2	628.9	607.8	605.0
50°	4957.5	4538.5	2359.4	805.4	634.6	699.9	664.4	621.2	582.9	577.1	576.2
52.5°	5877.9	5229.8	2424.6	709.4	588.6	652.8	628.0	583.9	553.2	556.1	556.1
55°	6856.7	5945.0	2426.5	633.7	548.4	598.2	601.1	565.7	541.7	551.3	554.1
57.5°	7749.3	6570.1	2235.8	580.0	510.0	555.1	592.5	572.3	554.1	587.7	590.5
60°	8527.8	7051.4	1825.4	535.9	478.4	538.8	611.6	613.6	609.8	700.8	707.6
62.5°	8812.5	7056.1	1296.2	498.5	461.1	548.4	651.9	654.8	654.8	739.2	751.7
65°	8413.7	6468.4	862.9	476.5	449.6	569.5	684.6	672.1	642.3	700.8	687.4
67.5°	7008.2	5035.2	630.9	462.1	433.3	570.4	713.3	681.7	630.9	680.7	657.7
70°	4816.6	3204.0	528.3	448.7	414.2	545.5	728.6	678.7	613.6	634.6	604.0
71°	3877.1	2556.9	501.5	443.9	406.5	531.1	730.6	674.9	605.0	618.4	590.5
72.5°	2554.0	1575.1	468.8	433.3	395.0	506.2	725.8	666.4	593.4	594.4	576.2
75°	1007.6	652.8	421.9	409.4	362.4	466.0	704.6	648.1	571.4	552.2	544.5
77.5°	509.1	426.7	371.0	375.8	324.1	424.7	674.9	618.4	540.7	514.9	509.1
80°	371.9	324.1	317.3	326.0	280.9	384.4	637.5	578.1	501.5	528.3	516.8
82.5°	226.3	197.5	248.3	269.4	234.9	343.2	593.4	531.1	451.5	416.0	402.6
85°	107.4	116.0	179.3	198.5	173.5	274.2	542.7	479.4	394.0	340.3	346.1
87.5°	52.7	64.2	102.6	118.9	114.1	201.3	409.4	371.9	310.7	255.9	250.2
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)