

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: P195412

Luminaire Tested: **NAV-AF-04-D-UNV-T4W-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195412
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-04-D-UNV-T4W-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 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: 15885 lumens
Efficiency: N/A
Efficacy: 123.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - 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: 25 FT

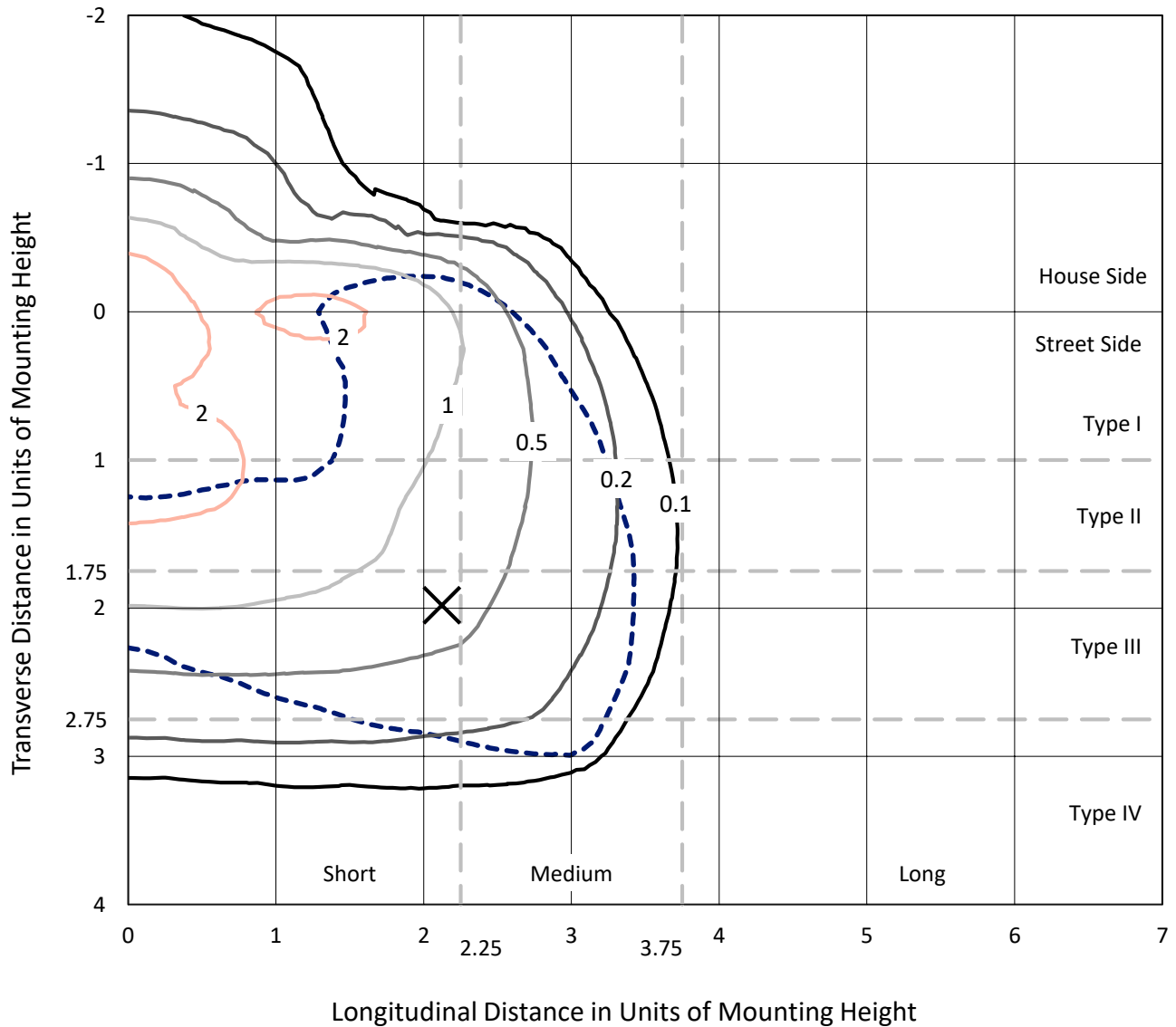


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Iso-Footcandle Lines of Horizontal Illumination

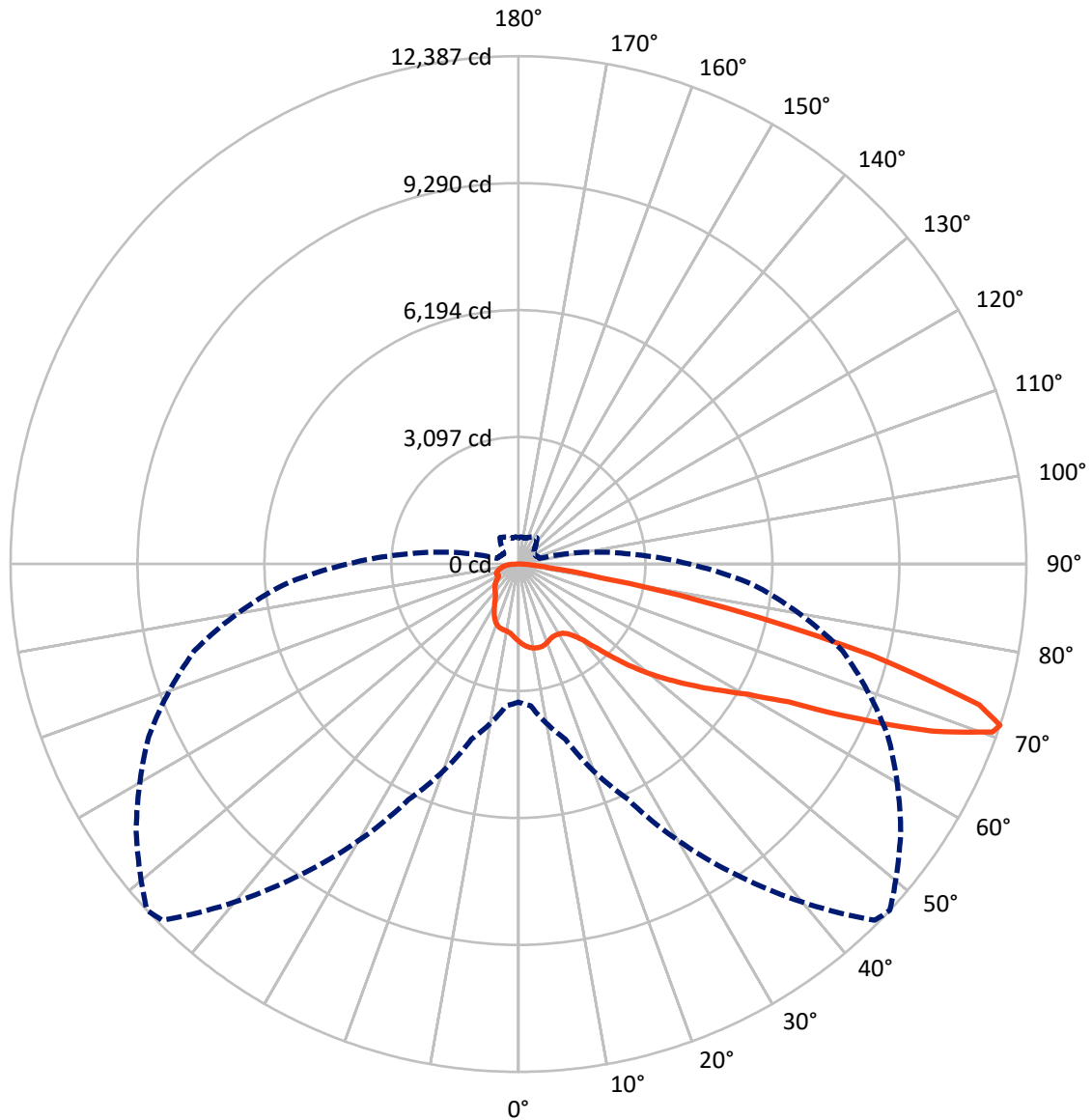
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.5 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	3404.4	0.0	3404.4
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	12480.6	0.0	12480.6
	% Fixture	78.6	0.0	78.6
Total	Lumens	15885.0	0.0	15885.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.4	1.1
10°-20°	527.7	3.3
20°-30°	784.1	4.9
30°-40°	1125.8	7.1
40°-50°	1996.1	12.6
50°-60°	3415.6	21.5
60°-70°	4849.0	30.5
70°-80°	2655.8	16.7
80°-90°	350.6	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°	15885.0	100.0
0°-180°	15885.0	100.0

Coefficient of Utilization



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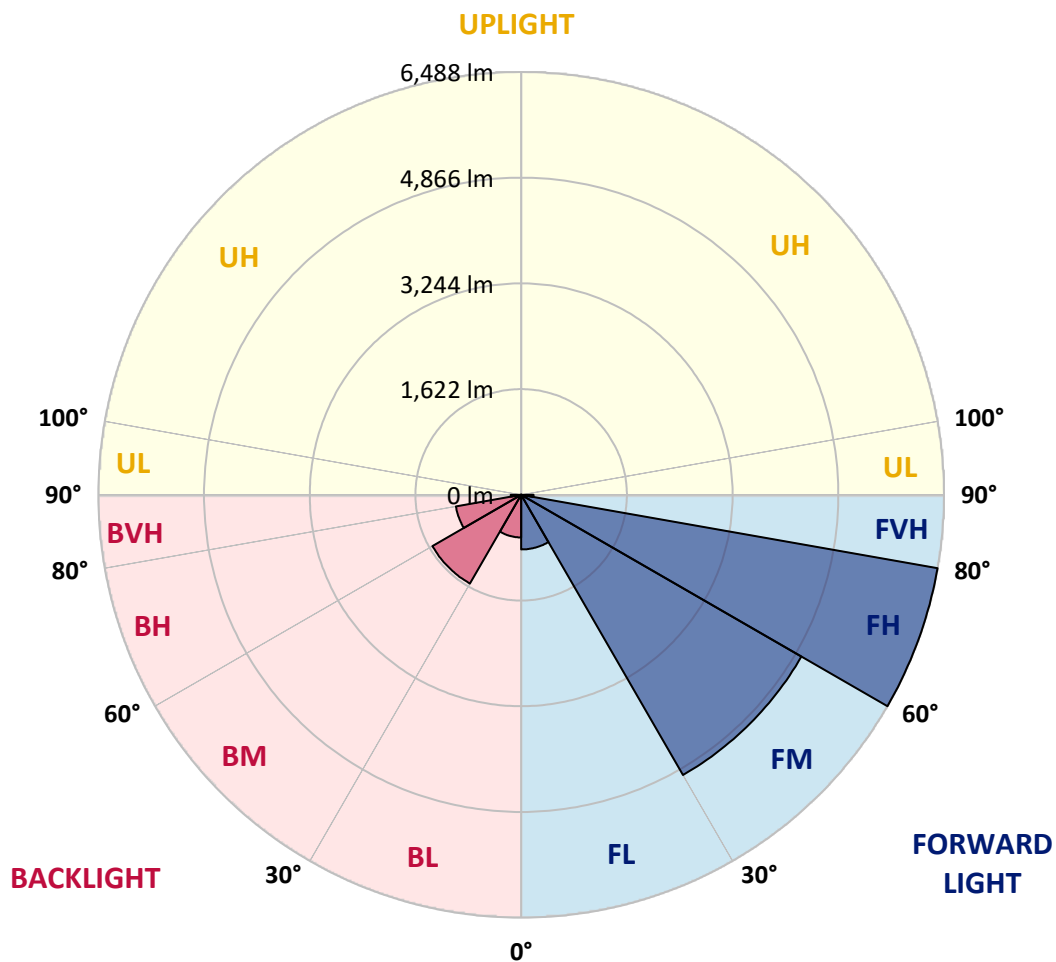
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	838.3	5.3			
FM	(30°-60°)	4964.5	31.3			
FH	(60°-80°)	6487.6	40.8			G3/7500
FVH	(80°-90°)	190.2	1.2			G2/225
BL	(0°-30°)	653.8	4.1	B2/1000		
BM	(30°-60°)	1573.0	9.9	B2/2500		
BH	(60°-80°)	1017.2	6.4	B3/2500		G3/2500
BVH	(80°-90°)	160.4	1.0			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0
2.5°	2004.3	2000.2	2002.2	1995.0	1977.5	1959.0	1959.0	1939.4	1918.8	1898.3	1875.6
5°	2128.8	2122.7	2117.5	2094.9	2060.9	2022.8	2016.6	1977.5	1935.3	1893.1	1851.9
7.5°	2232.8	2226.6	2211.2	2170.0	2120.6	2064.0	2056.8	2005.3	1949.7	1891.1	1833.4
10°	2306.9	2302.8	2273.0	2220.5	2162.8	2095.9	2083.6	2031.1	1965.2	1892.1	1819.0
12.5°	2348.1	2341.9	2305.9	2244.1	2176.2	2108.3	2095.9	2045.5	1970.3	1890.0	1804.6
15°	2331.6	2328.6	2294.6	2231.8	2163.8	2105.2	2094.9	2043.4	1967.2	1882.8	1791.2
17.5°	2261.6	2268.8	2242.1	2180.3	2124.7	2083.6	2072.2	2023.8	1951.8	1865.3	1770.6
20°	2164.9	2173.1	2159.7	2096.9	2065.0	2038.3	2032.1	1993.0	1926.1	1839.6	1745.9
22.5°	2061.9	2069.1	2070.2	2011.5	2001.2	1990.9	1985.8	1958.0	1903.4	1824.1	1729.4
25°	1990.9	1999.1	2001.2	1949.7	1955.9	1959.0	1958.0	1938.4	1899.3	1824.1	1731.5
27.5°	1972.4	1976.5	1974.4	1927.1	1938.4	1955.9	1956.9	1952.8	1915.8	1844.7	1760.3
30°	2036.2	2038.3	2012.5	1941.5	1952.8	1975.5	1976.5	1974.4	1950.8	1898.3	1825.2
32.5°	2312.1	2310.0	2221.5	2038.3	1999.1	2007.4	2010.5	2029.0	2031.1	1986.8	1918.8
35°	2732.1	2731.1	2628.1	2315.2	2130.9	2087.7	2091.8	2120.6	2146.3	2116.5	2077.4
37.5°	3194.3	3197.4	3134.6	2710.5	2415.0	2234.9	2230.8	2252.4	2298.7	2309.0	2314.1
40°	3707.0	3722.4	3719.3	3164.4	2813.4	2486.1	2444.9	2420.2	2509.7	2566.4	2639.4
42.5°	4292.7	4288.6	4290.6	3662.7	3268.4	2881.4	2805.2	2689.9	2793.9	2891.7	3052.2
45°	4796.1	4812.6	4824.9	4192.8	3778.0	3333.3	3256.1	3046.1	3139.7	3285.9	3530.9
47.5°	5302.6	5273.7	5296.4	4782.7	4345.2	3849.0	3749.2	3466.1	3553.6	3759.5	4132.1
50°	5892.4	5879.0	5776.1	5552.7	5030.8	4372.0	4241.2	3904.6	4032.3	4307.1	4874.3
52.5°	6421.5	6349.5	6269.2	6158.0	5705.1	4901.1	4735.3	4360.6	4595.3	4936.1	5795.7
55°	6615.1	6566.7	6663.5	6807.6	6418.5	5440.5	5255.2	4892.9	5230.5	5655.7	6879.6
57.5°	6821.0	6837.4	7055.7	7347.0	7093.8	6016.0	5815.2	5522.9	5927.4	6460.7	8091.3
60°	6923.9	6989.8	7425.2	7971.9	7736.1	6647.0	6454.5	6246.5	6700.5	7350.1	9299.8
62.5°	6941.4	7029.9	7646.6	8191.1	8620.4	7613.6	7391.3	7165.8	7666.1	8333.2	10174.8
65°	6620.2	6756.1	7627.0	8460.8	9426.4	9228.8	9087.8	8694.5	8959.1	9198.9	10324.1
67.5°	5676.2	5824.5	6872.4	8349.7	10072.9	10904.7	10877.9	10297.3	9957.6	9533.5	9217.5
70°	4166.1	4285.5	5292.3	7138.0	9790.8	12220.3	12267.6	11336.0	10236.6	8823.2	6853.9
71°	3369.3	3472.2	4421.4	6337.1	9241.1	12288.2	12387.1	11382.3	9946.3	8181.9	5738.0
72.5°	2096.9	2154.6	2935.9	4782.7	7957.4	11588.2	11755.0	10789.4	9032.2	6915.7	4055.9
75°	791.6	814.3	1089.1	2109.3	4749.8	8705.8	8907.6	8154.1	6345.4	3947.8	1697.5
77.5°	425.2	436.5	540.4	877.1	1903.4	4990.6	5250.1	4650.9	3044.0	1381.5	693.8
80°	285.2	292.4	373.7	519.9	875.0	1900.3	2116.5	1867.4	1139.6	788.5	494.1
82.5°	184.3	188.4	254.3	341.8	565.2	668.1	762.8	796.8	711.3	565.2	298.5
85°	121.5	124.6	167.8	218.2	350.0	329.4	337.7	441.6	484.9	372.7	152.4
87.5°	70.0	72.1	100.9	112.2	157.5	123.5	133.8	210.0	288.2	242.9	87.5
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°	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0	1889.0
2.5°	1865.3	1857.1	1838.6	1827.2	1822.1	1820.0	1818.0	1822.1	1822.1	1820.0	1815.9
5°	1831.3	1815.9	1785.0	1763.4	1752.1	1749.0	1753.1	1758.3	1761.3	1761.3	1758.3
7.5°	1806.6	1784.0	1742.8	1713.0	1695.5	1690.3	1701.6	1720.2	1732.5	1738.7	1739.7
10°	1786.1	1755.2	1709.9	1679.0	1664.6	1662.5	1676.9	1700.6	1726.3	1737.7	1739.7
12.5°	1767.5	1732.5	1683.1	1654.3	1644.0	1649.1	1668.7	1690.3	1720.2	1736.6	1737.7
15°	1750.0	1714.0	1661.5	1631.6	1629.6	1637.8	1656.3	1673.8	1696.5	1717.1	1717.1
17.5°	1729.4	1690.3	1635.8	1608.0	1608.0	1615.2	1627.5	1636.8	1651.2	1670.8	1669.7
20°	1704.7	1664.6	1609.0	1580.2	1574.0	1569.9	1569.9	1571.9	1584.3	1601.8	1604.9
22.5°	1686.2	1645.0	1586.3	1551.3	1523.5	1496.8	1485.5	1481.3	1492.7	1509.1	1513.3
25°	1686.2	1645.0	1579.1	1520.5	1452.5	1401.0	1379.4	1373.3	1384.6	1400.0	1406.2
27.5°	1714.0	1672.8	1595.6	1492.7	1368.1	1285.8	1260.0	1254.9	1265.2	1277.5	1283.7
30°	1778.8	1738.7	1643.0	1460.8	1274.4	1166.3	1137.5	1132.4	1137.5	1142.7	1149.9
32.5°	1886.9	1853.0	1720.2	1431.9	1179.7	1058.2	1023.2	1015.0	1017.1	1018.1	1024.3
35°	2063.0	2047.5	1823.1	1398.0	1090.2	969.7	933.7	917.2	916.2	921.3	928.5
37.5°	2332.7	2341.9	1955.9	1348.5	1016.0	906.9	870.9	854.4	846.2	856.5	864.7
40°	2713.6	2735.2	2109.3	1281.6	955.3	869.9	831.8	816.3	805.0	801.9	806.0
42.5°	3208.7	3202.5	2265.8	1196.2	889.4	845.2	805.0	788.5	770.0	746.3	741.2
45°	3795.5	3707.0	2396.5	1091.2	814.3	821.5	780.3	757.7	728.8	693.8	689.7
47.5°	4488.3	4244.3	2476.8	979.0	744.3	790.6	752.5	717.5	675.3	652.7	649.6
50°	5323.2	4873.3	2533.4	864.7	681.5	751.5	713.4	667.1	625.9	619.7	618.7
52.5°	6311.4	5615.5	2603.4	761.8	632.1	701.0	674.3	626.9	594.0	597.1	597.1
55°	7362.4	6383.5	2605.5	680.4	588.8	642.4	645.4	607.4	581.6	591.9	595.0
57.5°	8320.8	7054.6	2400.6	622.8	547.7	596.0	636.2	614.6	595.0	631.0	634.1
60°	9156.7	7571.4	1960.0	575.4	513.7	578.5	656.8	658.8	654.7	752.5	759.7
62.5°	9462.5	7576.6	1391.8	535.3	495.2	588.8	700.0	703.1	703.1	793.7	807.1
65°	9034.2	6945.5	926.5	511.6	482.8	611.5	735.0	721.6	689.7	752.5	738.1
67.5°	7525.1	5406.5	677.4	496.2	465.3	612.5	765.9	731.9	677.4	730.9	706.2
70°	5171.8	3440.3	567.2	481.8	444.7	585.7	782.4	728.8	658.8	681.5	648.5
71°	4163.0	2745.5	538.4	476.6	436.5	570.3	784.4	724.7	649.6	664.0	634.1
72.5°	2742.4	1691.3	503.4	465.3	424.1	543.5	779.3	715.4	637.2	638.2	618.7
75°	1081.9	701.0	452.9	439.6	389.1	500.3	756.6	695.9	613.5	592.9	584.7
77.5°	546.6	458.1	398.4	403.5	347.9	456.0	724.7	664.0	580.6	552.8	546.6
80°	399.4	347.9	340.7	350.0	301.6	412.8	684.6	620.7	538.4	567.2	554.9
82.5°	242.9	212.1	266.6	289.3	252.2	368.5	637.2	570.3	484.9	446.8	432.4
85°	115.3	124.6	192.5	213.1	186.3	294.4	582.7	514.7	423.1	365.4	371.6
87.5°	56.6	69.0	110.1	127.6	122.5	216.2	439.6	399.4	333.5	274.9	268.7
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)