

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: P195897

Luminaire Tested: **NAV-AF-03-D-UNV-T4W-7050-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195897  
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-7050-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5000K, 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: 14462 lumens  
Efficiency: N/A  
Efficacy: 116.6 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

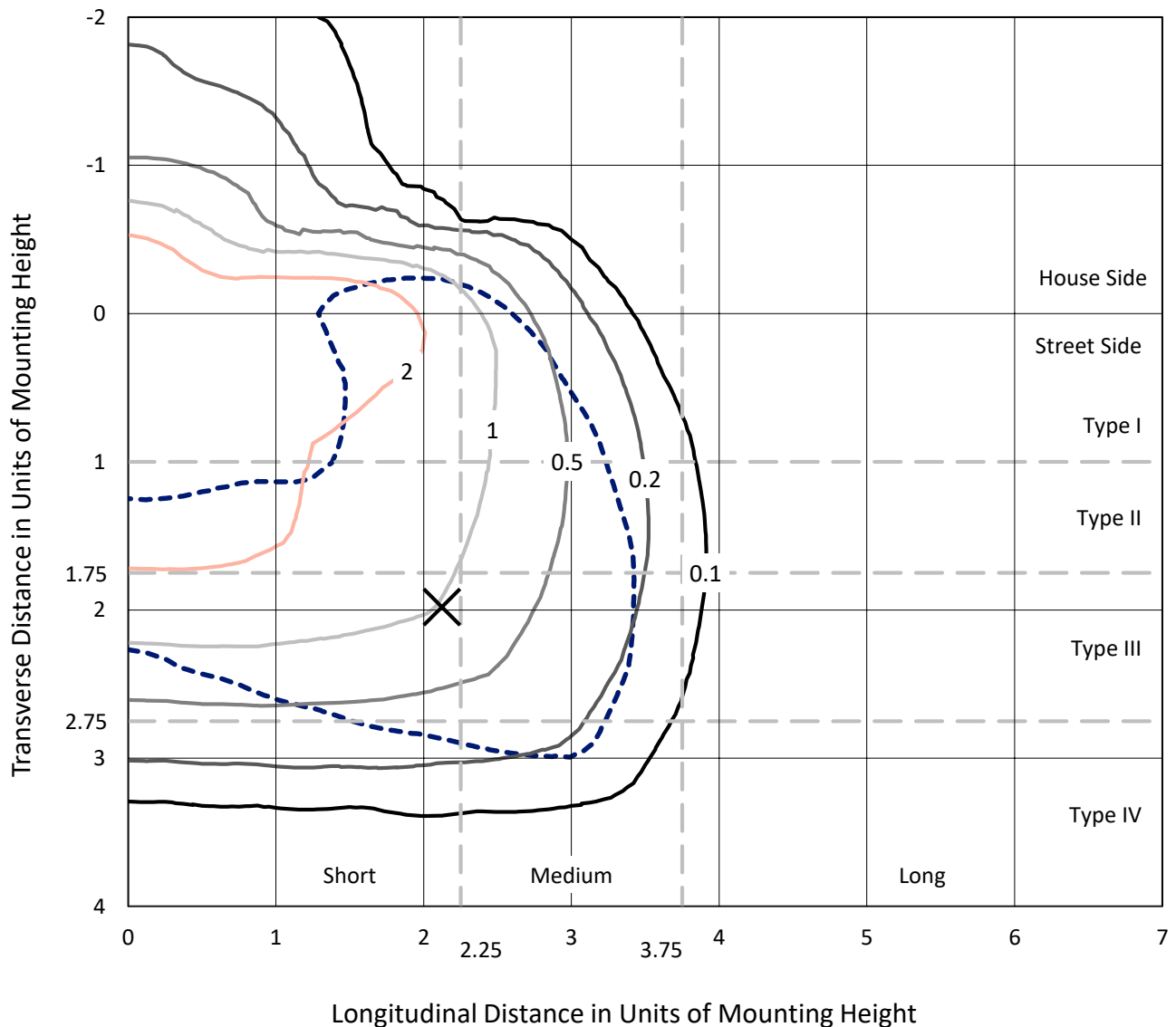
Input Watts (W): 124  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

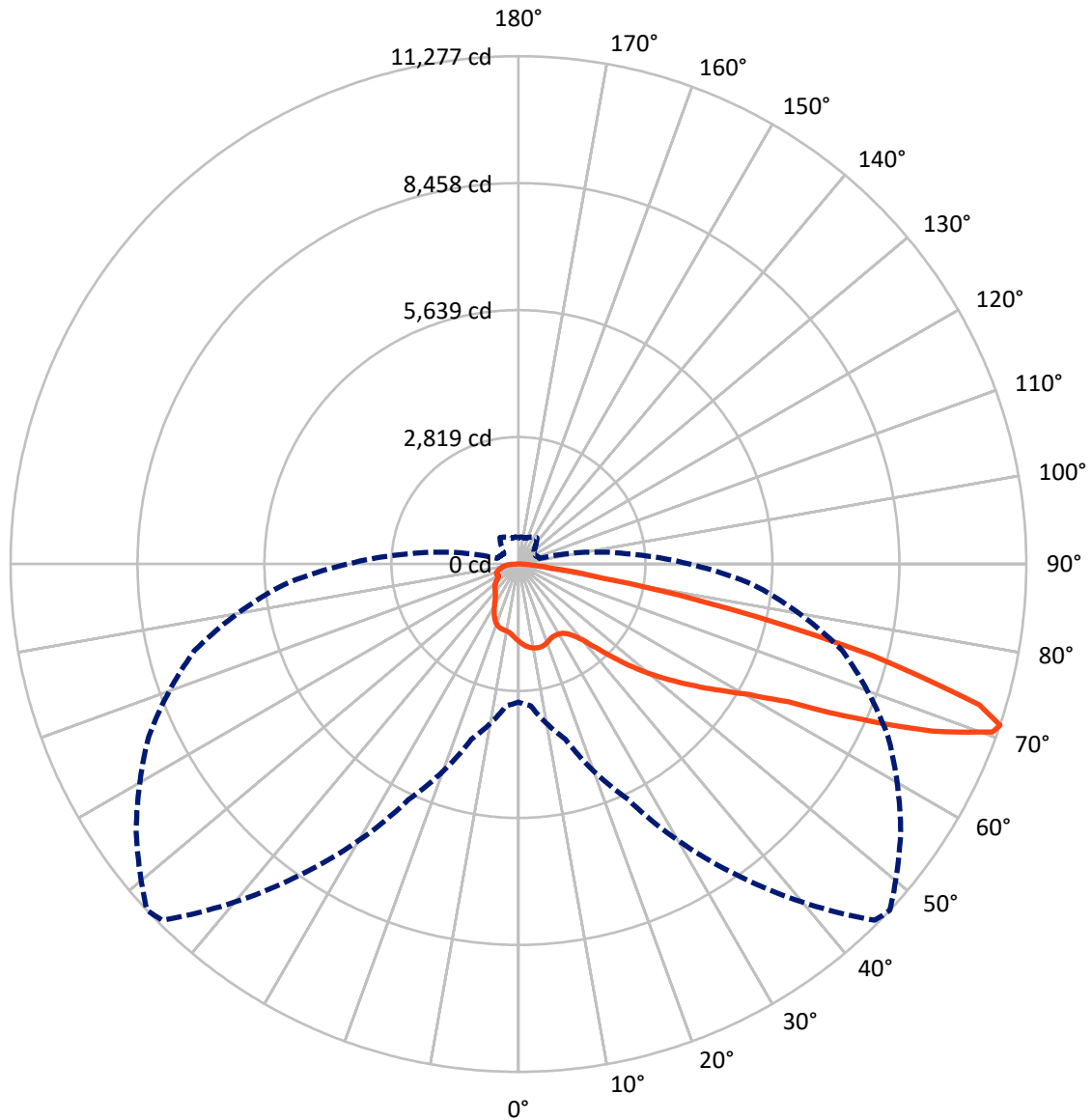
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.9 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
<b>House Side</b>	Lumens	3099.4	0.0	3099.4
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	11362.6	0.0	11362.6
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	14462.0	0.0	14462.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.2	1.1
10°-20°	480.4	3.3
20°-30°	713.8	4.9
30°-40°	1025.0	7.1
40°-50°	1817.3	12.6
50°-60°	3109.7	21.5
60°-70°	4414.6	30.5
70°-80°	2417.9	16.7
80°-90°	319.2	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°	14462.0	100.0
0°-180°	14462.0	100.0

**Coefficient of Utilization**



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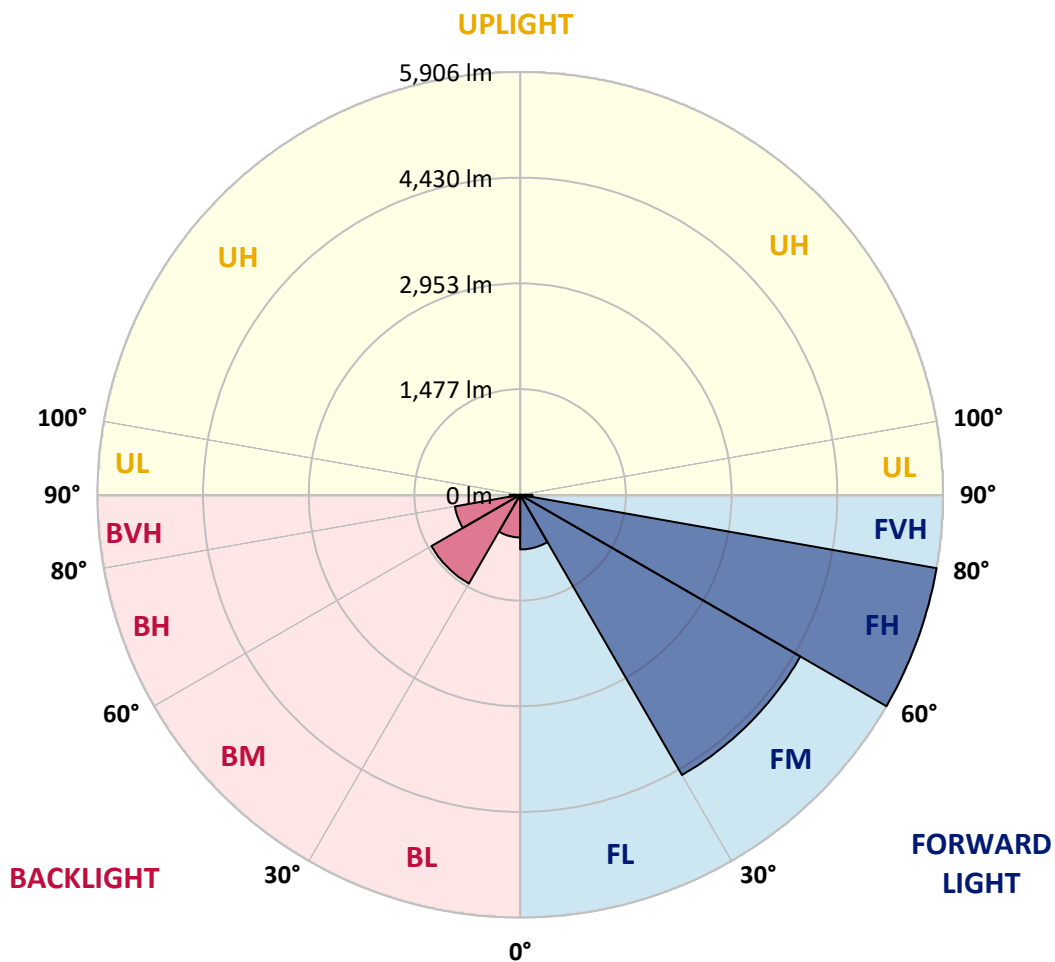
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	763.2	5.3			
FM	(30°-60°)	4519.8	31.3			
FH	(60°-80°)	5906.4	40.8			G3/7500
FVH	(80°-90°)	173.1	1.2			G2/225
BL	(0°-30°)	595.2	4.1	B2/1000		
BM	(30°-60°)	1432.1	9.9	B2/2500		
BH	(60°-80°)	926.1	6.4	B2/1000		G2/1000
BVH	(80°-90°)	146.0	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°	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8
2.5°	1824.7	1821.0	1822.9	1816.3	1800.4	1783.5	1783.5	1765.7	1747.0	1728.2	1707.6
5°	1938.1	1932.5	1927.8	1907.2	1876.3	1841.6	1836.0	1800.4	1761.9	1723.5	1686.0
7.5°	2032.8	2027.2	2013.1	1975.6	1930.6	1879.1	1872.5	1825.7	1775.1	1721.6	1669.2
10°	2100.3	2096.5	2069.4	2021.6	1969.1	1908.2	1896.9	1849.1	1789.1	1722.6	1656.0
12.5°	2137.8	2132.1	2099.3	2043.1	1981.3	1919.4	1908.2	1862.2	1793.8	1720.7	1642.9
15°	2122.8	2120.0	2089.0	2031.9	1970.0	1916.6	1907.2	1860.4	1791.0	1714.2	1630.7
17.5°	2059.0	2065.6	2041.2	1985.0	1934.4	1896.9	1886.6	1842.5	1776.9	1698.2	1612.0
20°	1970.9	1978.4	1966.3	1909.1	1880.0	1855.7	1850.0	1814.4	1753.5	1674.8	1589.5
22.5°	1877.2	1883.8	1884.7	1831.3	1821.9	1812.6	1807.9	1782.6	1732.9	1660.7	1574.5
25°	1812.6	1820.1	1821.9	1775.1	1780.7	1783.5	1782.6	1764.8	1729.1	1660.7	1576.4
27.5°	1795.7	1799.4	1797.6	1754.5	1764.8	1780.7	1781.6	1777.9	1744.1	1679.5	1602.6
30°	1853.8	1855.7	1832.2	1767.6	1777.9	1798.5	1799.4	1797.6	1776.0	1728.2	1661.7
32.5°	2105.0	2103.1	2022.5	1855.7	1820.1	1827.6	1830.4	1847.2	1849.1	1808.8	1747.0
35°	2487.3	2486.4	2392.7	2107.8	1940.0	1900.7	1904.4	1930.6	1954.1	1926.9	1891.3
37.5°	2908.2	2911.0	2853.8	2467.7	2198.7	2034.7	2030.9	2050.6	2092.8	2102.2	2106.8
40°	3374.9	3388.9	3386.1	2881.0	2561.4	2263.4	2225.9	2203.4	2284.9	2336.5	2403.0
42.5°	3908.2	3904.4	3906.3	3334.6	2975.6	2623.2	2553.9	2448.9	2543.6	2632.6	2778.8
45°	4366.4	4381.4	4392.7	3817.2	3439.5	3034.7	2964.4	2773.2	2858.5	2991.6	3214.6
47.5°	4827.6	4801.3	4821.9	4354.3	3955.9	3504.2	3413.3	3155.6	3235.2	3422.7	3761.9
50°	5364.6	5352.4	5258.7	5055.3	4580.1	3980.3	3861.3	3554.8	3671.0	3921.3	4437.7
52.5°	5846.3	5780.7	5707.6	5606.4	5194.0	4462.0	4311.2	3970.0	4183.7	4493.9	5276.5
55°	6022.5	5978.4	6066.5	6197.7	5843.5	4953.1	4784.4	4454.5	4761.9	5149.0	6263.4
57.5°	6209.9	6224.9	6423.6	6688.8	6458.3	5477.0	5294.3	5028.1	5396.4	5881.9	7366.4
60°	6303.7	6363.6	6760.1	7257.7	7043.1	6051.5	5876.3	5687.0	6100.3	6691.7	8466.7
62.5°	6319.6	6400.2	6961.6	7457.4	7848.2	6931.6	6729.1	6523.9	6979.4	7586.7	9263.3
65°	6027.2	6150.9	6943.8	7702.9	8582.0	8402.1	8273.7	7915.6	8156.5	8374.9	9399.2
67.5°	5167.8	5302.7	6256.8	7601.7	9170.6	9927.8	9903.5	9374.9	9065.6	8679.5	8391.7
70°	3792.9	3901.6	4818.2	6498.6	8913.8	11125.6	11168.7	10320.5	9319.6	8032.8	6239.9
71°	3067.5	3161.2	4025.3	5769.4	8413.3	11187.4	11277.4	10362.7	9055.3	7448.9	5224.0
72.5°	1909.1	1961.6	2672.9	4354.3	7244.6	10550.1	10702.0	9822.9	8223.1	6296.2	3692.6
75°	720.7	741.3	991.6	1920.3	4324.3	7926.0	8109.6	7423.6	5776.9	3594.2	1545.5
77.5°	387.1	397.4	492.0	798.5	1732.9	4543.6	4779.8	4234.3	2771.3	1257.7	631.7
80°	259.6	266.2	340.2	473.3	796.6	1730.1	1926.9	1700.1	1037.5	717.9	449.9
82.5°	167.8	171.5	231.5	311.2	514.5	608.2	694.5	725.4	647.6	514.5	271.8
85°	110.6	113.4	152.8	198.7	318.7	299.9	307.4	402.1	441.4	339.3	138.7
87.5°	63.7	65.6	91.8	102.2	143.4	112.5	121.8	191.2	262.4	221.2	79.7
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°	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8	1719.8
2.5°	1698.2	1690.7	1673.9	1663.5	1658.9	1657.0	1655.1	1658.9	1658.9	1657.0	1653.2
5°	1667.3	1653.2	1625.1	1605.4	1595.1	1592.3	1596.1	1600.7	1603.6	1603.6	1600.7
7.5°	1644.8	1624.2	1586.7	1559.5	1543.6	1538.9	1549.2	1566.1	1577.3	1582.9	1583.9
10°	1626.1	1597.9	1556.7	1528.6	1515.5	1513.6	1526.7	1548.3	1571.7	1582.0	1583.9
12.5°	1609.2	1577.3	1532.3	1506.1	1496.7	1501.4	1519.2	1538.9	1566.1	1581.1	1582.0
15°	1593.3	1560.4	1512.7	1485.5	1483.6	1491.1	1508.0	1523.9	1544.5	1563.3	1563.3
17.5°	1574.5	1538.9	1489.2	1463.9	1463.9	1470.5	1481.7	1490.2	1503.3	1521.1	1520.1
20°	1552.0	1515.5	1464.9	1438.6	1433.0	1429.2	1429.2	1431.1	1442.4	1458.3	1461.1
22.5°	1535.1	1497.7	1444.2	1412.4	1387.1	1362.7	1352.4	1348.6	1358.9	1373.9	1377.7
25°	1535.1	1497.7	1437.7	1384.3	1322.4	1275.5	1255.9	1250.2	1260.5	1274.6	1280.2
27.5°	1560.4	1523.0	1452.7	1358.9	1245.5	1170.6	1147.1	1142.5	1151.8	1163.1	1168.7
30°	1619.5	1582.9	1495.8	1329.9	1160.3	1061.9	1035.6	1030.9	1035.6	1040.3	1046.9
32.5°	1717.9	1687.0	1566.1	1303.7	1074.0	963.4	931.6	924.1	926.0	926.9	932.5
35°	1878.2	1864.1	1659.8	1272.7	992.5	882.8	850.0	835.1	834.1	838.8	845.4
37.5°	2123.7	2132.1	1780.7	1227.7	925.0	825.7	792.9	777.9	770.4	779.8	787.3
40°	2470.5	2490.2	1920.3	1166.8	869.7	791.9	757.3	743.2	732.9	730.1	733.8
42.5°	2921.3	2915.6	2062.8	1089.0	809.7	769.4	732.9	717.9	701.0	679.5	674.8
45°	3455.5	3374.9	2181.8	993.4	741.3	747.9	710.4	689.8	663.5	631.7	627.9
47.5°	4086.2	3864.1	2254.9	891.3	677.6	719.8	685.1	653.2	614.8	594.2	591.4
50°	4846.3	4436.7	2306.5	787.3	620.4	684.2	649.5	607.3	569.8	564.2	563.3
52.5°	5746.0	5112.5	2370.2	693.5	575.4	638.2	613.9	570.8	540.8	543.6	543.6
55°	6702.9	5811.6	2372.1	619.5	536.1	584.8	587.6	553.0	529.5	538.9	541.7
57.5°	7575.4	6422.7	2185.6	567.0	498.6	542.6	579.2	559.5	541.7	574.5	577.3
60°	8336.5	6893.2	1784.4	523.9	467.7	526.7	597.9	599.8	596.1	685.1	691.7
62.5°	8614.8	6897.8	1267.1	487.3	450.8	536.1	637.3	640.1	640.1	722.6	734.8
65°	8224.9	6323.3	843.5	465.8	439.5	556.7	669.2	657.0	627.9	685.1	672.0
67.5°	6851.0	4922.2	616.7	451.7	423.6	557.6	697.3	666.4	616.7	665.4	642.9
70°	4708.5	3132.1	516.4	438.6	404.9	533.3	712.3	663.5	599.8	620.4	590.4
71°	3790.1	2499.5	490.2	433.9	397.4	519.2	714.2	659.8	591.4	604.5	577.3
72.5°	2496.7	1539.8	458.3	423.6	386.1	494.8	709.5	651.4	580.1	581.1	563.3
75°	985.0	638.2	412.4	400.2	354.3	455.5	688.8	633.6	558.6	539.8	532.3
77.5°	497.7	417.1	362.7	367.4	316.8	415.2	659.8	604.5	528.6	503.3	497.7
80°	363.6	316.8	310.2	318.7	274.6	375.8	623.2	565.1	490.2	516.4	505.2
82.5°	221.2	193.1	242.7	263.4	229.6	335.5	580.1	519.2	441.4	406.7	393.6
85°	105.0	113.4	175.3	194.0	169.6	268.0	530.5	468.6	385.2	332.7	338.3
87.5°	51.5	62.8	100.3	116.2	111.5	196.8	400.2	363.6	303.7	250.2	244.6
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)