

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: P270477

Luminaire Tested: **NAV-AF-03-D-UNV-T4W-7027**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270477  
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-7027  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15551.6 lumens  
Efficiency: N/A  
Efficacy: 93.7 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

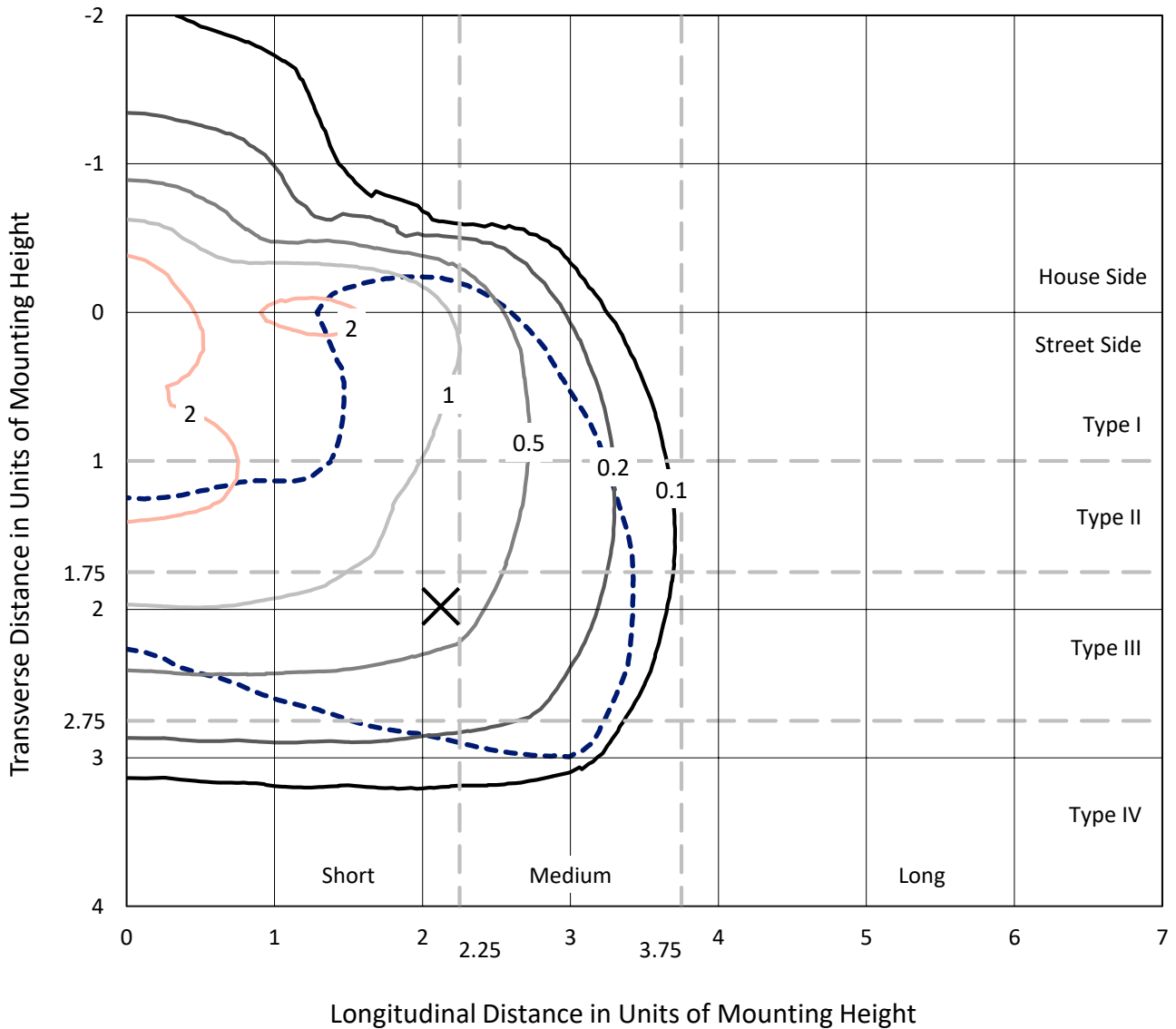
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

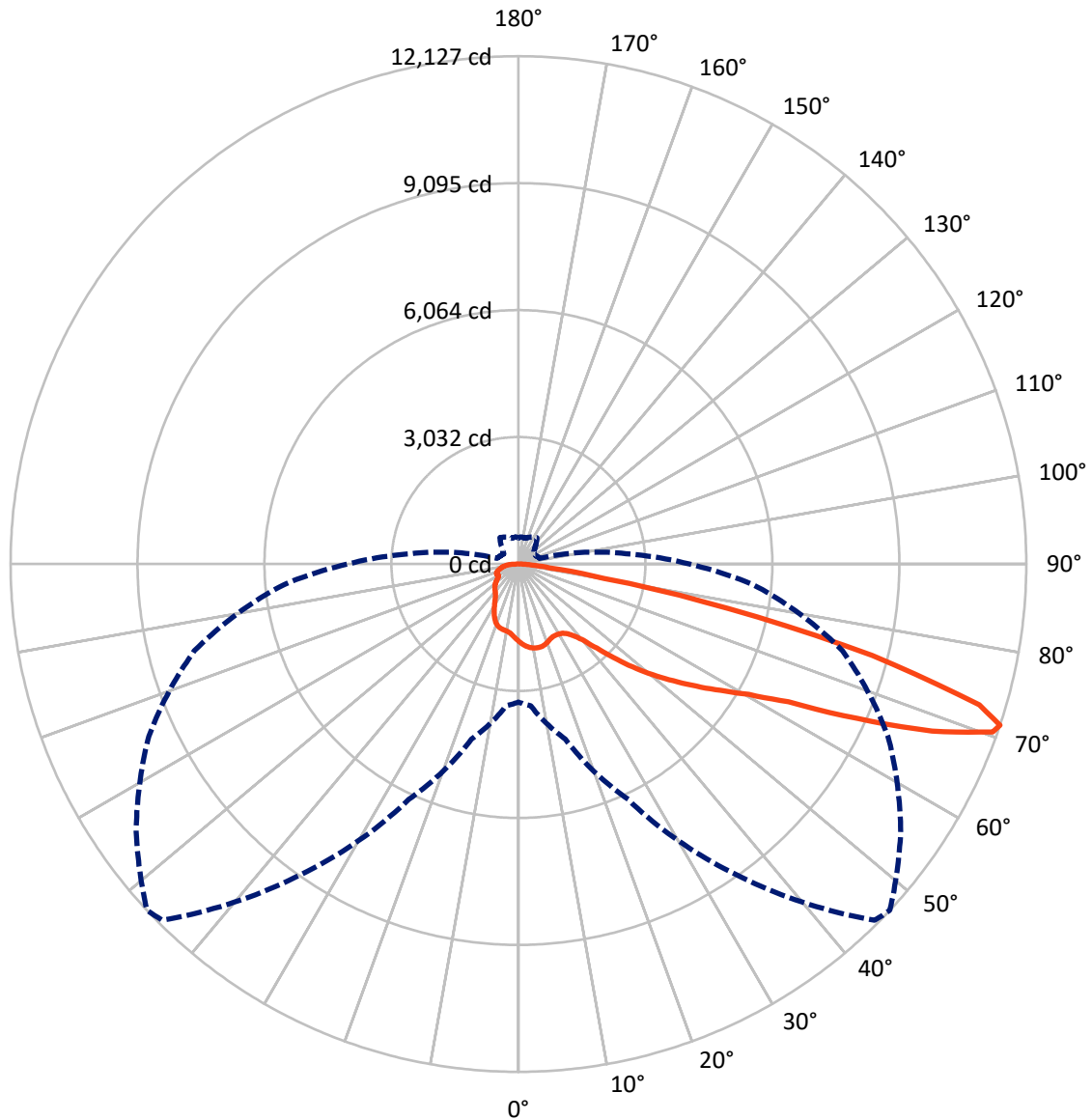
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.4 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
<b>House Side</b>	Lumens	3332.9	0.0	3332.9
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	12218.6	0.0	12218.6
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	15551.6	0.0	15551.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	176.6	1.1
10°-20°	516.6	3.3
20°-30°	767.6	4.9
30°-40°	1102.2	7.1
40°-50°	1954.2	12.6
50°-60°	3343.9	21.5
60°-70°	4747.2	30.5
70°-80°	2600.0	16.7
80°-90°	343.2	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°	15551.6	100.0
0°-180°	15551.6	100.0



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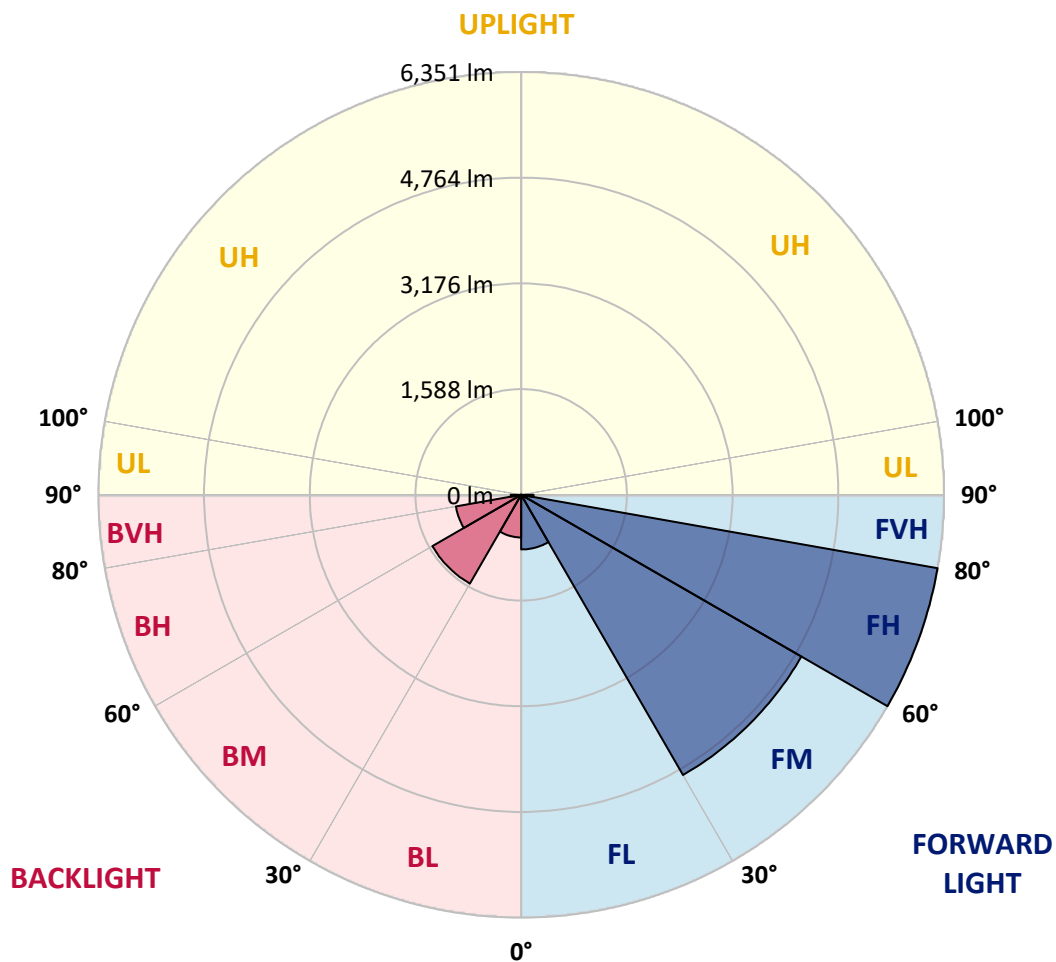
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	820.7	5.3			
FM (30°-60°)	4860.3	31.3			
FH (60°-80°)	6351.4	40.8			G3/7500
FVH (80°-90°)	186.2	1.2			G2/225
BL (0°-30°)	640.0	4.1	B2/1000		
BM (30°-60°)	1540.0	9.9	B2/2500		
BH (60°-80°)	995.8	6.4	B2/1000		G2/1000
BVH (80°-90°)	157.1	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-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3
2.5°	1962.2	1958.1	1960.2	1953.2	1935.9	1917.9	1917.9	1898.7	1878.5	1858.5	1836.2
5°	2084.2	2078.0	2073.1	2050.9	2017.7	1980.4	1974.4	1935.9	1894.6	1853.4	1813.0
7.5°	2185.9	2179.8	2164.7	2124.5	2076.2	2020.6	2013.6	1963.2	1908.8	1851.3	1795.0
10°	2258.5	2254.4	2225.2	2173.9	2117.5	2051.9	2039.8	1988.4	1923.9	1852.3	1780.8
12.5°	2298.9	2292.7	2257.5	2197.1	2130.5	2064.0	2051.9	2002.5	1929.0	1850.4	1766.6
15°	2282.8	2279.7	2246.4	2184.9	2118.5	2061.0	2050.9	2000.5	1926.0	1843.3	1753.6
17.5°	2214.1	2221.1	2195.0	2134.6	2080.1	2039.8	2028.7	1981.4	1910.9	1826.2	1733.5
20°	2119.5	2127.5	2114.4	2052.9	2021.6	1995.4	1989.4	1951.1	1885.6	1800.9	1709.2
22.5°	2018.6	2025.7	2026.8	1969.3	1959.3	1949.1	1944.1	1916.9	1863.4	1785.8	1693.1
25°	1949.1	1957.1	1959.3	1908.8	1914.8	1917.9	1916.9	1897.7	1859.4	1785.8	1695.1
27.5°	1930.9	1934.9	1933.1	1886.6	1897.7	1914.8	1915.8	1911.9	1875.5	1806.0	1723.4
30°	1993.5	1995.4	1970.3	1900.8	1911.9	1934.1	1934.9	1933.1	1909.7	1858.5	1786.9
32.5°	2263.5	2261.6	2174.8	1995.4	1957.1	1965.2	1968.2	1986.4	1988.4	1945.1	1878.5
35°	2674.8	2673.7	2572.9	2266.6	2086.1	2043.9	2047.9	2076.2	2101.2	2072.1	2033.8
37.5°	3127.3	3130.2	3068.8	2653.6	2364.2	2188.0	2183.9	2205.1	2250.4	2260.6	2265.5
40°	3629.2	3644.2	3641.2	3098.1	2754.4	2433.9	2393.5	2369.4	2457.0	2512.5	2584.1
42.5°	4202.6	4198.6	4200.6	3585.9	3199.9	2820.9	2746.3	2633.4	2735.2	2831.0	2988.2
45°	4695.4	4711.5	4723.6	4104.9	3698.7	3263.4	3187.7	2982.2	3073.8	3216.9	3456.8
47.5°	5191.2	5163.1	5185.1	4682.3	4254.1	3768.2	3670.5	3393.3	3479.0	3680.5	4045.3
50°	5768.7	5755.6	5654.9	5436.2	4925.1	4280.2	4152.1	3822.6	3947.6	4216.7	4771.9
52.5°	6286.8	6216.2	6137.6	6028.7	5585.3	4798.1	4636.0	4269.1	4498.9	4832.5	5674.1
55°	6476.2	6428.9	6523.6	6664.6	6283.7	5326.3	5145.0	4790.1	5120.7	5537.0	6735.2
57.5°	6677.8	6693.9	6907.5	7192.8	6944.8	5889.6	5693.2	5407.0	5803.1	6325.1	7921.4
60°	6778.6	6843.1	7269.4	7804.6	7573.7	6507.5	6318.9	6115.4	6559.9	7195.9	9104.6
62.5°	6795.7	6882.4	7486.0	8019.2	8439.4	7453.7	7236.1	7015.5	7505.2	8158.2	9961.2
65°	6481.4	6614.3	7466.9	8283.2	9228.6	9035.1	8897.1	8512.0	8771.1	9005.9	10107.4
67.5°	5557.1	5702.3	6728.1	8174.3	9861.5	10675.7	10649.5	10081.1	9748.5	9333.4	9024.0
70°	4078.7	4195.5	5181.2	6988.3	9585.4	11963.7	12010.2	11098.1	10021.8	8638.0	6710.0
71°	3298.5	3399.4	4328.6	6204.1	9047.2	12030.3	12127.1	11143.5	9737.4	8010.1	5617.6
72.5°	2052.9	2109.4	2874.2	4682.3	7790.5	11345.0	11508.2	10562.9	8842.6	6770.5	3970.8
75°	775.0	797.2	1066.3	2065.1	4650.0	8523.1	8720.7	7982.9	6212.1	3865.0	1661.9
77.5°	416.3	427.4	529.1	858.7	1863.4	4885.9	5139.8	4553.2	2980.0	1352.5	679.3
80°	279.2	286.2	365.8	508.9	856.7	1860.4	2072.1	1828.2	1115.7	772.1	483.7
82.5°	180.4	184.4	248.9	334.6	553.3	654.1	746.9	780.1	696.4	553.3	292.3
85°	118.9	121.9	164.3	213.6	342.7	322.5	330.5	432.4	474.7	364.8	149.2
87.5°	68.5	70.5	98.8	109.9	154.1	120.9	131.1	205.6	282.2	237.8	85.7
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°	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3	1849.3
2.5°	1826.2	1818.1	1799.9	1788.9	1783.9	1781.8	1779.8	1783.9	1783.9	1781.8	1777.7
5°	1792.8	1777.7	1747.6	1726.5	1715.4	1712.3	1716.3	1721.3	1724.3	1724.3	1721.3
7.5°	1768.8	1746.6	1706.2	1677.0	1659.9	1654.9	1665.9	1684.1	1696.2	1702.2	1703.1
10°	1748.6	1718.3	1674.0	1643.8	1629.6	1627.5	1641.7	1664.9	1690.2	1701.2	1703.1
12.5°	1730.5	1696.2	1647.9	1619.6	1609.5	1614.6	1633.7	1654.9	1684.1	1700.2	1701.2
15°	1713.2	1678.0	1626.7	1597.4	1595.4	1603.5	1621.6	1638.7	1660.8	1681.1	1681.1
17.5°	1693.1	1654.9	1601.4	1574.2	1574.2	1581.2	1593.4	1602.4	1616.5	1635.6	1634.6
20°	1669.0	1629.6	1575.2	1547.1	1541.0	1536.9	1536.9	1538.9	1551.1	1568.1	1571.1
22.5°	1650.8	1610.5	1553.0	1518.8	1491.5	1465.3	1454.3	1450.3	1461.4	1477.4	1481.5
25°	1650.8	1610.5	1546.1	1488.5	1422.0	1371.6	1350.5	1344.5	1355.5	1370.6	1376.7
27.5°	1678.0	1637.7	1562.2	1461.4	1339.5	1258.7	1233.6	1228.5	1238.7	1250.7	1256.8
30°	1741.5	1702.2	1608.4	1430.1	1247.7	1141.8	1113.5	1108.6	1113.5	1118.7	1125.8
32.5°	1847.4	1814.0	1684.1	1401.8	1155.0	1036.0	1001.8	993.7	995.7	996.7	1002.8
35°	2019.7	2004.6	1784.8	1368.6	1067.2	949.4	914.0	897.9	897.0	902.0	909.1
37.5°	2283.8	2292.7	1914.8	1320.1	994.8	887.9	852.6	836.5	828.4	838.5	846.6
40°	2656.6	2677.8	2065.1	1254.8	935.2	851.7	814.4	799.2	788.2	785.1	789.2
42.5°	3141.4	3135.4	2218.3	1171.1	870.7	827.3	788.2	772.1	753.9	730.7	725.7
45°	3715.7	3629.2	2346.3	1068.3	797.2	804.3	763.9	741.7	713.6	679.3	675.3
47.5°	4394.1	4155.2	2424.9	958.4	728.6	774.0	736.7	702.5	661.2	639.0	635.9
50°	5211.3	4771.0	2480.2	846.6	667.3	735.7	698.4	653.1	612.7	606.7	605.6
52.5°	6178.9	5497.6	2548.9	745.9	618.8	686.3	660.2	613.7	581.6	584.5	584.5
55°	7207.9	6249.5	2550.7	666.2	576.4	628.9	631.9	594.6	569.4	579.4	582.6
57.5°	8146.2	6906.6	2350.2	609.7	536.2	583.4	622.9	601.7	582.6	617.8	620.8
60°	8964.5	7412.5	1918.9	563.3	503.0	566.4	642.9	645.1	641.0	736.7	743.7
62.5°	9263.9	7417.6	1362.5	524.2	484.7	576.4	685.2	688.3	688.3	777.0	790.1
65°	8844.6	6799.7	907.0	500.9	472.7	598.6	719.6	706.4	675.3	736.7	722.5
67.5°	7367.1	5293.1	663.2	485.8	455.5	599.7	749.8	716.6	663.2	715.6	691.3
70°	5063.2	3368.1	555.3	471.7	435.4	573.5	766.0	713.6	645.1	667.3	634.9
71°	4075.6	2687.9	527.0	466.6	427.4	558.3	768.0	709.5	635.9	650.1	620.8
72.5°	2684.9	1655.8	492.8	455.5	415.2	532.2	762.9	700.4	623.9	624.9	605.6
75°	1059.2	686.3	443.5	430.4	380.9	489.8	740.7	681.3	600.6	580.6	572.4
77.5°	535.1	448.4	390.0	395.1	340.6	446.5	709.5	650.1	568.4	541.1	535.1
80°	391.0	340.6	333.6	342.7	295.4	404.1	670.1	607.8	527.0	555.3	543.3
82.5°	237.8	207.6	261.0	283.1	246.9	360.8	623.9	558.3	474.7	437.4	423.3
85°	112.8	121.9	188.5	208.6	182.4	288.3	570.5	503.9	414.2	357.7	363.9
87.5°	55.4	67.6	107.8	125.0	120.0	211.6	430.4	391.0	326.5	269.1	263.1
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)