

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: P196828

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-7030-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196828  
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-04-D-UNV-T4FT-7030-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 3000K, 615mA 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: 15668.9 lumens  
Efficiency: N/A  
Efficacy: 121.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G3

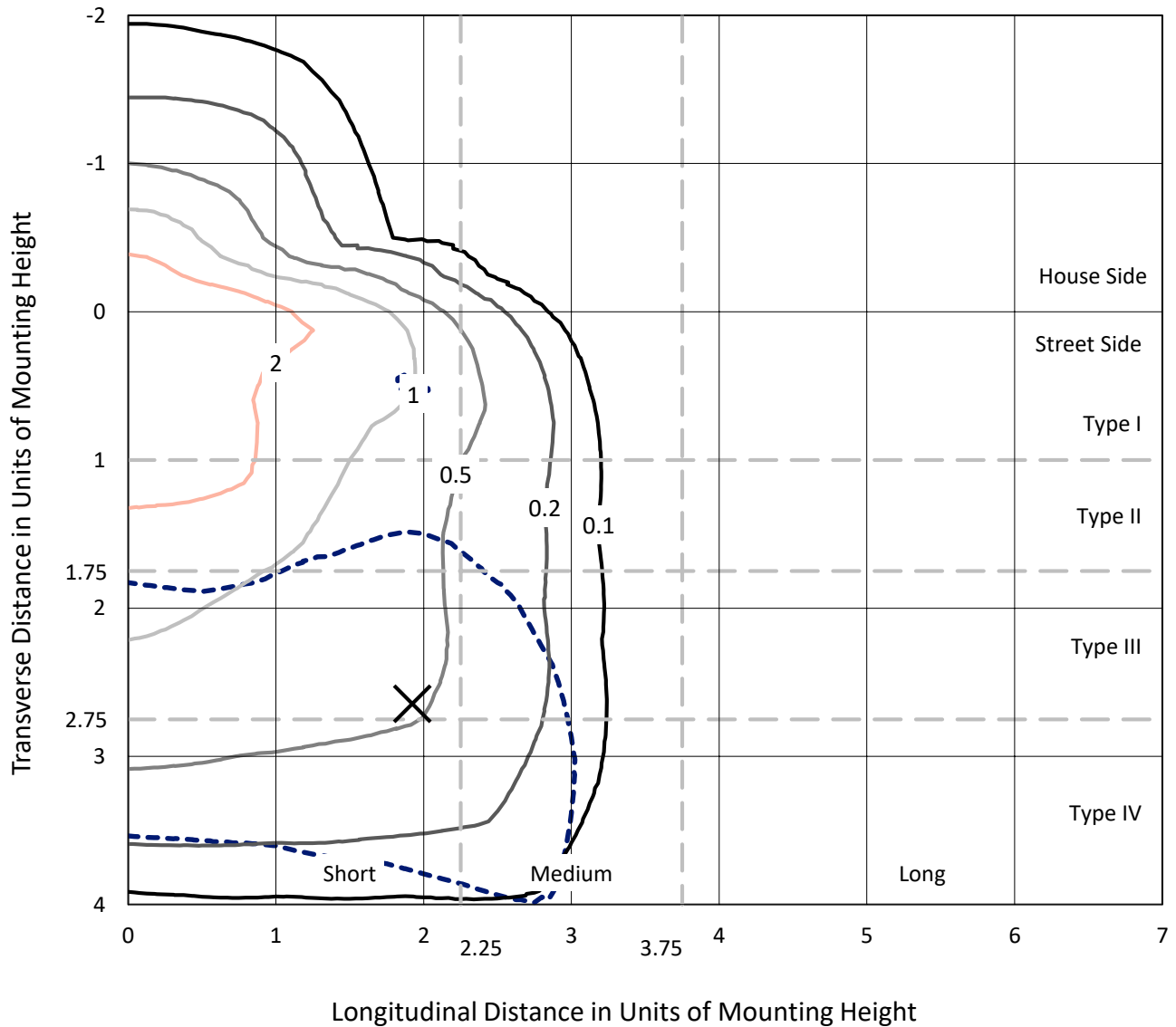
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

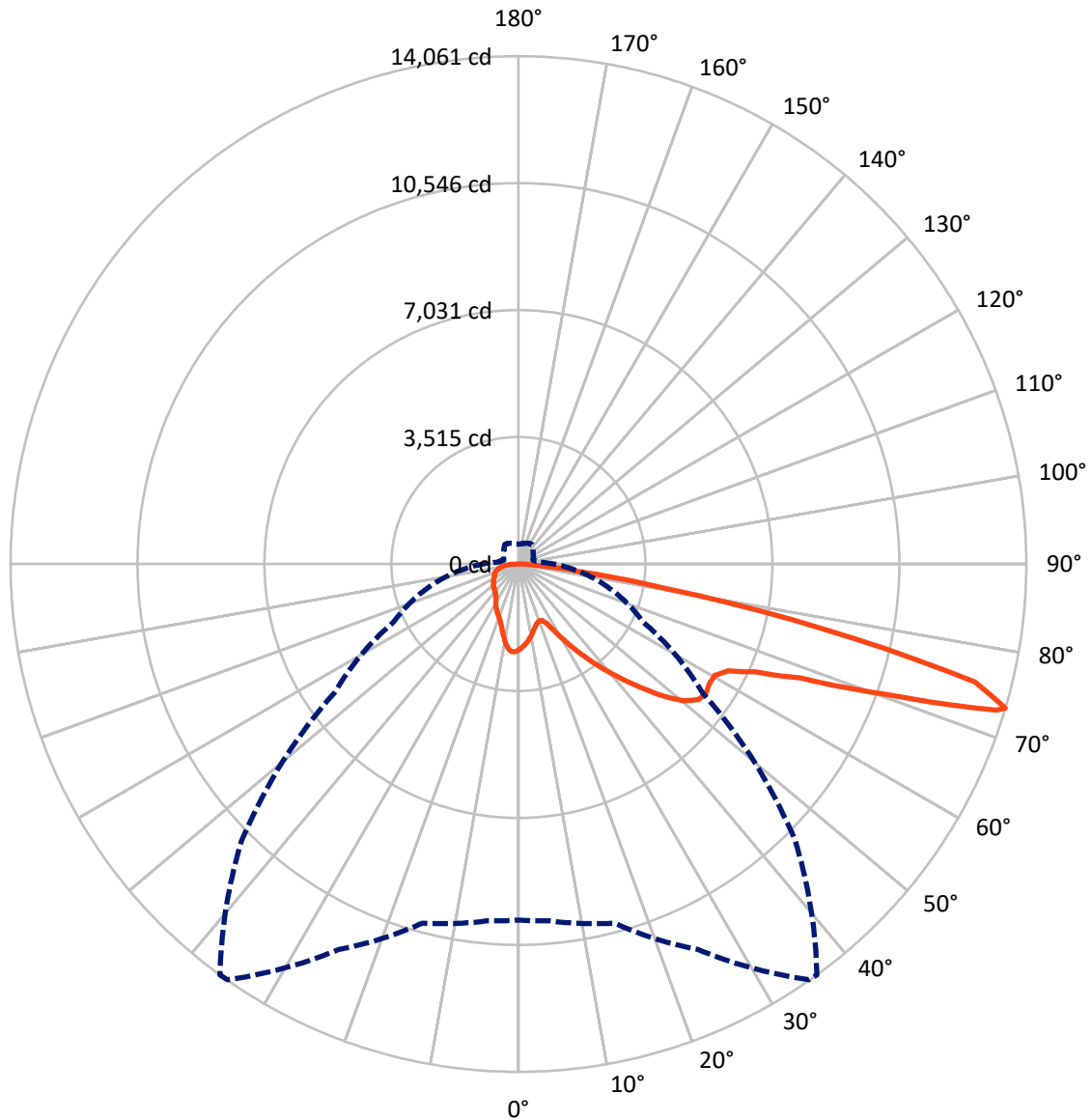
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 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
<b>House Side</b>	Lumens	3021.4	0.0	3021.4
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	12647.4	0.0	12647.4
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	15668.9	0.0	15668.9
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	215.6	1.4
10°-20°	541.4	3.5
20°-30°	868.0	5.5
30°-40°	1435.8	9.2
40°-50°	2221.7	14.2
50°-60°	2974.2	19.0
60°-70°	3885.3	24.8
70°-80°	3173.6	20.3
80°-90°	353.2	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°	15668.9	100.0
0°-180°	15668.9	100.0



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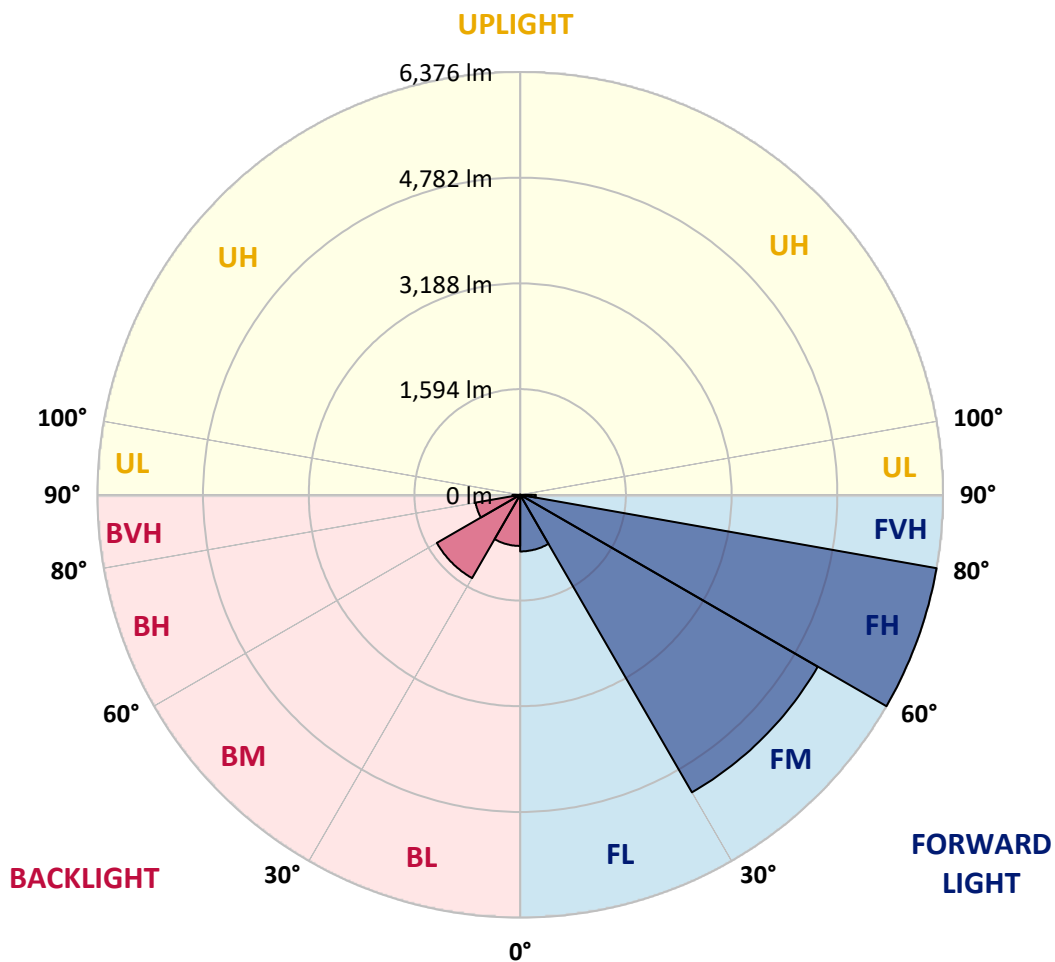
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	853.8	5.4			
FM (30°-60°)	5180.7	33.1			
FH (60°-80°)	6376.1	40.7			G3/7500
FVH (80°-90°)	236.9	1.5			G3/500
BL (0°-30°)	771.3	4.9	B2/1000		
BM (30°-60°)	1451.0	9.3	B2/2500		
BH (60°-80°)	682.8	4.4	B2/1000		G2/1000
BVH (80°-90°)	116.3	0.7			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°	36°	45°	55°	65°	75°	85°
0°	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3
2.5°	2282.8	2288.8	2289.7	2296.7	2296.7	2295.7	2298.7	2310.7	2316.7	2330.6	2342.5
5°	2170.3	2177.2	2180.3	2192.2	2207.1	2208.1	2219.0	2242.0	2263.9	2294.8	2320.6
7.5°	2043.8	2051.8	2059.7	2084.6	2106.5	2108.6	2129.5	2166.3	2195.1	2233.0	2279.8
10°	1921.5	1923.4	1931.3	1963.2	1992.2	1995.1	2024.9	2066.7	2105.5	2158.3	2211.1
12.5°	1820.8	1826.9	1824.8	1848.7	1873.6	1875.7	1915.5	1968.2	2024.9	2084.6	2147.4
15°	1786.1	1785.0	1764.1	1763.1	1774.1	1776.0	1814.9	1876.6	1940.3	2013.9	2094.6
17.5°	1809.9	1801.9	1747.2	1713.3	1706.4	1708.4	1737.2	1805.0	1872.6	1957.3	2053.8
20°	1941.3	1910.4	1782.0	1700.4	1677.4	1677.4	1694.4	1749.1	1823.9	1922.4	2043.8
22.5°	2252.9	2205.2	1931.3	1786.1	1705.3	1697.5	1684.4	1726.3	1808.9	1927.4	2084.6
25°	2645.1	2622.2	2205.2	2013.9	1847.7	1821.9	1736.2	1751.2	1839.8	1981.1	2196.2
27.5°	3008.6	2968.7	2564.6	2345.5	2110.6	2070.7	1889.5	1828.8	1913.4	2080.8	2357.5
30°	3220.6	3193.7	2933.8	2724.8	2445.0	2394.3	2134.5	1982.2	2044.9	2245.0	2586.3
32.5°	3451.5	3435.6	3304.2	3114.1	2807.4	2748.8	2451.0	2232.0	2246.0	2463.0	2862.1
35°	3675.6	3696.5	3621.8	3482.4	3197.7	3143.0	2876.1	2558.6	2493.9	2707.9	3156.8
37.5°	3944.4	3949.2	3902.5	3811.9	3607.8	3563.1	3343.0	2907.0	2763.6	2968.7	3441.5
40°	4480.9	4402.3	4219.1	4147.5	4025.9	3998.2	3747.3	3226.5	3014.5	3236.5	3710.5
42.5°	5061.3	4938.8	4652.2	4534.7	4485.9	4460.1	4083.7	3439.6	3249.5	3504.3	3974.2
45°	5529.3	5429.7	5149.0	5003.6	5009.5	4967.8	4377.4	3629.7	3504.3	3773.2	4268.9
47.5°	5990.1	5823.9	5509.3	5488.4	5558.1	5496.4	4658.2	3819.9	3770.1	4065.7	4563.5
50°	6020.0	5868.8	5741.3	5908.5	6028.1	5951.4	4913.1	4068.9	4045.9	4420.2	4943.9
52.5°	5656.7	5634.8	5828.9	6110.7	6308.7	6240.2	5121.1	4324.7	4327.6	4863.2	5406.8
55°	5524.2	5496.4	5729.3	6075.8	6343.6	6302.8	5276.3	4613.4	4640.2	5400.8	5903.6
57.5°	5747.2	5677.5	5723.4	6010.2	6261.9	6238.0	5437.7	4933.9	4982.7	6020.0	6362.5
60°	6439.2	6296.8	6053.9	6107.7	6264.9	6251.0	5668.6	5291.3	5373.0	6665.2	6653.3
62.5°	7475.5	7314.3	6819.5	6580.5	6545.7	6518.9	6049.9	5730.3	5771.2	7131.2	6484.0
65°	8612.5	8439.1	7850.9	7459.5	7254.5	7196.8	6665.2	6260.0	6004.2	7130.0	5824.9
67.5°	9888.7	9705.6	9119.3	8745.8	8523.9	8425.3	7663.7	6688.1	5928.5	6526.8	4661.1
70°	11195.9	11021.6	10752.9	10883.4	10980.9	10830.6	9236.7	6830.5	5385.0	5117.0	3130.0
72.5°	10502.0	10488.1	10692.1	11928.6	13809.2	13839.1	10807.6	6428.3	4160.4	3041.3	1668.5
73°	9857.9	9916.6	10295.0	11774.4	14051.1	14061.1	10838.5	6220.1	3819.9	2620.2	1465.5
75°	5107.1	5505.3	6909.1	9547.3	13010.8	13057.6	9554.2	4709.0	2276.9	1455.5	987.6
77.5°	1367.9	1350.0	2226.0	4651.1	8674.2	8612.5	6037.0	2279.8	1091.1	912.9	692.9
80°	468.9	474.8	757.6	1701.3	4048.9	4193.3	2620.2	994.6	717.9	636.1	490.8
82.5°	239.0	246.9	396.2	723.8	1693.4	1657.6	843.3	585.4	480.8	386.2	274.8
85°	127.4	131.4	218.0	375.3	621.2	628.2	296.6	312.6	305.6	219.1	135.4
87.5°	62.8	64.7	104.6	165.3	230.0	222.1	103.6	135.4	150.3	123.5	74.7
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°	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3
2.5°	2357.5	2357.5	2370.4	2392.3	2408.2	2423.2	2433.1	2449.0	2458.0	2457.0	2456.0
5°	2341.5	2351.5	2377.4	2404.2	2422.2	2434.1	2434.1	2441.1	2441.1	2438.1	2434.1
7.5°	2304.8	2321.6	2359.5	2383.4	2388.3	2375.4	2349.5	2329.6	2304.8	2291.7	2286.8
10°	2246.0	2267.9	2315.6	2326.5	2300.7	2254.9	2192.2	2138.4	2090.6	2068.8	2061.7
12.5°	2188.3	2217.1	2261.8	2245.0	2183.2	2093.6	1997.0	1923.4	1869.7	1848.7	1841.8
15°	2140.4	2175.3	2210.1	2157.4	2049.8	1925.3	1818.8	1750.2	1709.4	1693.4	1689.4
17.5°	2108.6	2149.3	2161.3	2062.9	1913.4	1774.1	1679.6	1634.7	1616.8	1609.8	1607.7
20°	2110.6	2156.3	2127.5	1971.1	1782.0	1641.6	1578.9	1566.0	1566.0	1566.0	1565.0
22.5°	2165.3	2205.2	2113.5	1885.6	1655.6	1530.1	1503.3	1514.3	1522.2	1522.2	1521.2
25°	2278.8	2300.7	2123.5	1802.9	1537.2	1433.6	1434.6	1455.5	1462.4	1462.4	1460.5
27.5°	2452.0	2434.1	2141.4	1711.3	1420.6	1346.0	1360.0	1378.9	1383.8	1380.8	1379.8
30°	2669.1	2597.4	2156.3	1603.8	1311.1	1264.3	1276.2	1287.3	1283.2	1276.2	1275.3
32.5°	2912.0	2763.6	2147.4	1483.4	1214.5	1179.7	1186.7	1192.7	1186.7	1169.7	1169.7
35°	3152.9	2914.0	2098.7	1352.0	1137.9	1098.0	1097.1	1116.0	1115.0	1095.1	1096.1
37.5°	3364.0	3032.4	2004.1	1231.5	1072.2	1038.4	1042.4	1054.3	1060.3	1033.4	1030.5
40°	3548.0	3114.1	1870.6	1128.9	1019.4	1021.5	1010.4	991.5	984.7	972.6	970.7
42.5°	3721.4	3170.8	1729.2	1043.3	992.5	1015.4	978.6	933.8	914.9	925.9	932.8
45°	3891.6	3234.5	1592.9	972.6	958.7	997.5	946.7	897.0	875.0	880.1	887.0
47.5°	4099.6	3323.1	1428.6	897.0	907.0	964.6	926.8	873.1	840.2	820.3	814.3
50°	4373.4	3451.5	1215.5	815.4	852.2	928.8	909.9	838.2	802.4	762.6	752.6
52.5°	4715.8	3573.0	1000.5	749.6	807.4	898.0	882.0	808.4	764.6	716.7	708.9
55°	5057.4	3589.9	815.4	692.9	756.6	856.1	848.2	784.5	722.8	684.0	676.0
57.5°	5296.4	3429.6	690.9	645.0	707.8	804.3	817.4	755.6	687.9	658.1	653.1
60°	5300.2	3046.3	615.2	613.3	671.0	759.6	785.5	721.7	666.1	646.2	642.1
62.5°	4879.2	2455.0	566.5	589.4	644.1	722.8	761.5	702.9	661.0	653.1	649.1
65°	4089.7	1813.9	527.6	567.5	619.3	691.9	741.7	696.8	659.1	656.1	653.1
67.5°	3019.5	1243.5	494.8	539.6	591.3	660.0	722.8	687.9	647.2	659.1	655.1
70°	1899.5	830.3	464.0	507.7	554.5	623.3	697.8	672.0	632.2	625.2	612.3
72.5°	1072.2	600.3	427.1	466.9	506.8	574.3	664.1	645.0	598.3	570.5	557.6
73°	968.7	568.4	418.1	456.9	495.8	564.5	656.1	637.2	588.4	557.6	545.5
75°	708.9	464.9	377.3	416.2	450.0	518.7	618.2	597.3	544.5	507.7	499.8
77.5°	513.7	358.4	324.5	359.4	389.3	454.9	561.5	537.5	485.8	465.9	457.9
80°	370.4	271.8	268.8	302.6	328.6	395.2	500.7	475.9	426.1	484.8	471.9
82.5°	221.0	174.3	197.1	234.9	261.7	331.5	435.1	406.2	358.4	362.4	308.6
85°	105.6	98.6	122.5	154.3	173.1	226.9	362.4	339.5	286.7	234.9	230.0
87.5°	46.8	44.8	58.8	68.8	92.6	136.3	247.9	220.0	208.0	124.4	97.6
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)