

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: P196853

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-7030-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196853  
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-05-D-UNV-T4W-7030-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 3000K, 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: 18934.6 lumens  
Efficiency: N/A  
Efficacy: 116.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G4

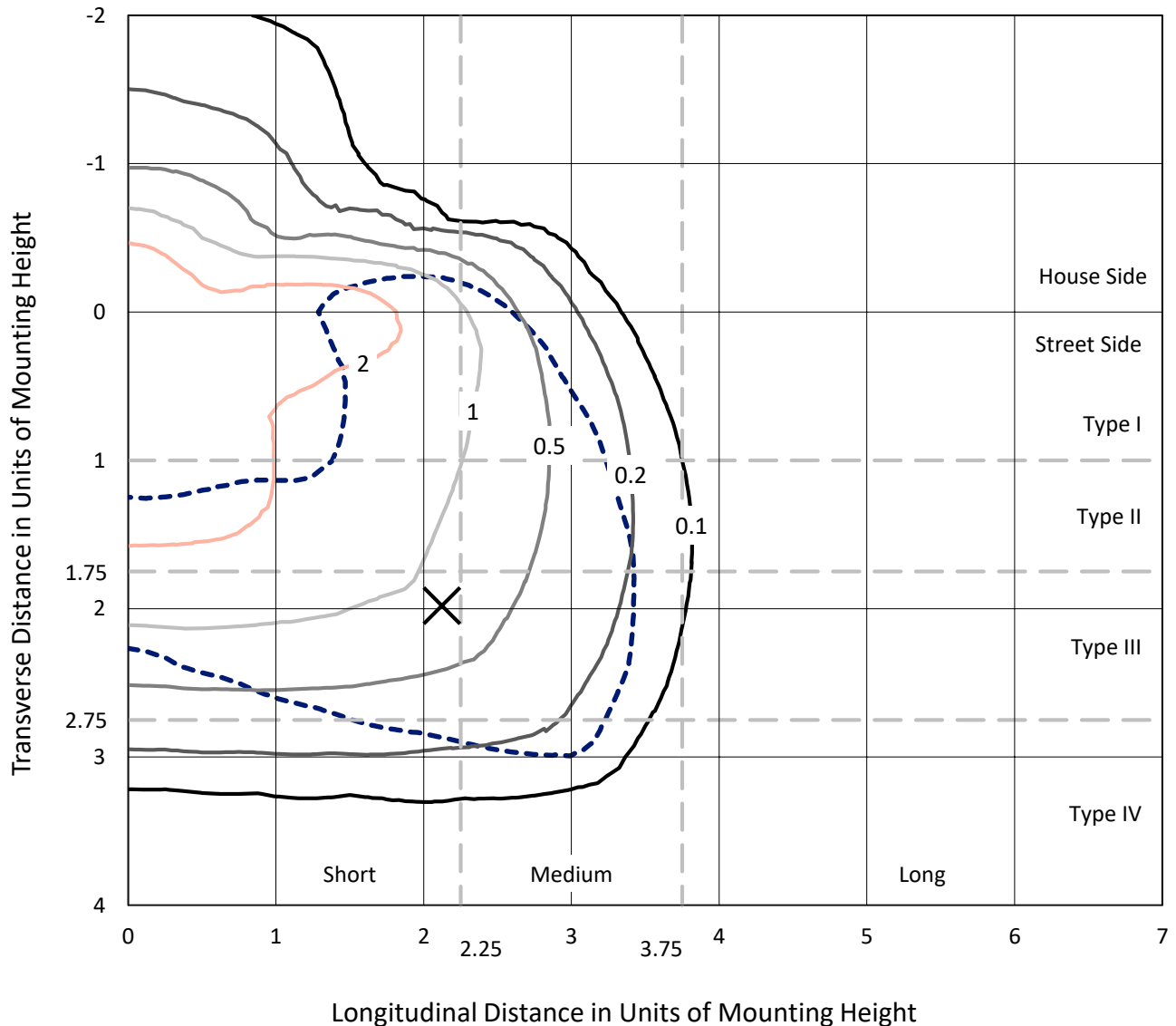
Input Watts (W): 162  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

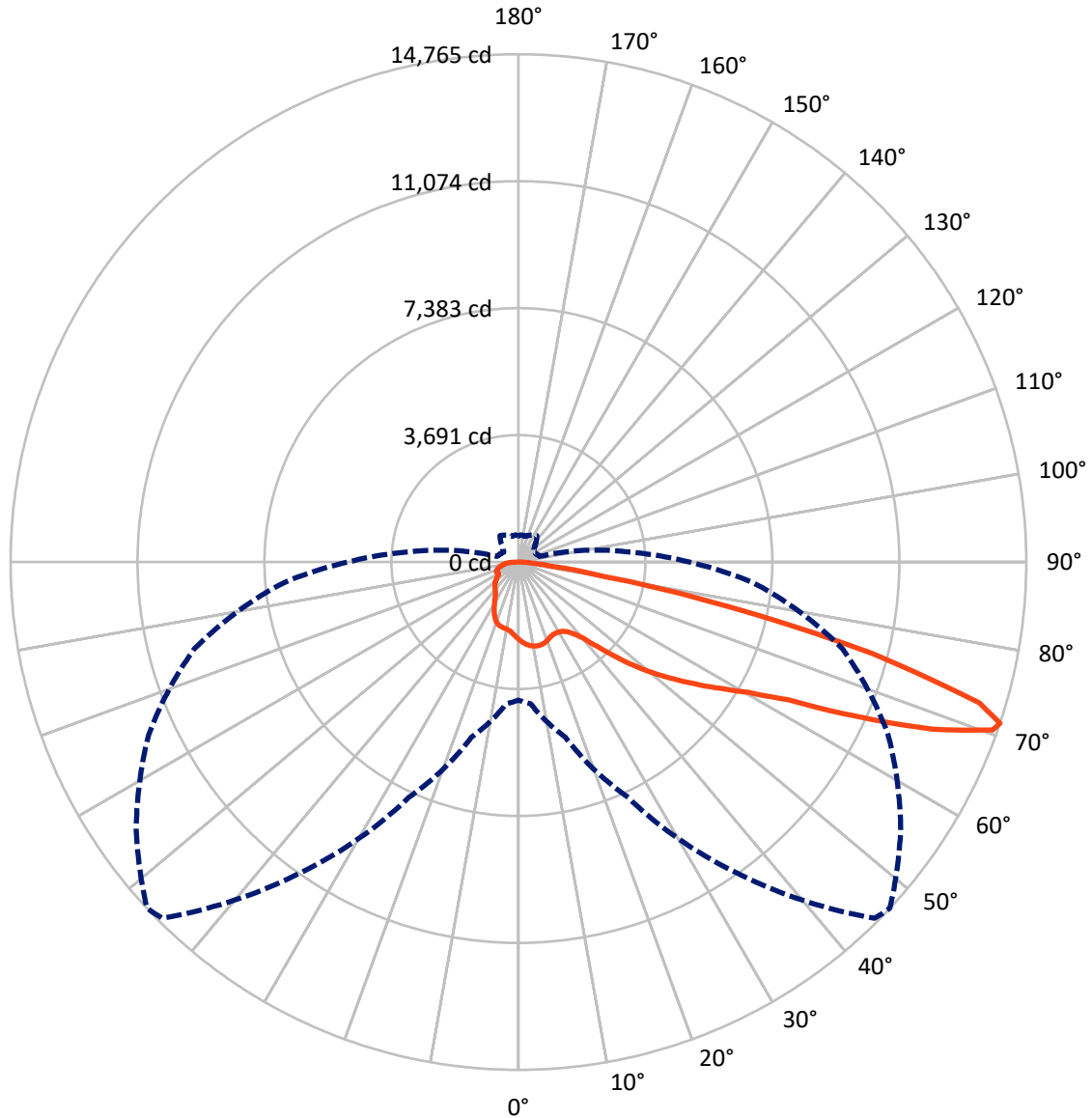
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.1 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	4058.0	0.0	4058.0
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	14876.7	0.0	14876.7
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	18934.6	0.0	18934.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	215.0	1.1
10°-20°	629.0	3.3
20°-30°	934.6	4.9
30°-40°	1342.0	7.1
40°-50°	2379.3	12.6
50°-60°	4071.4	21.5
60°-70°	5779.9	30.5
70°-80°	3165.6	16.7
80°-90°	417.9	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°	18934.6	100.0
0°-180°	18934.6	100.0



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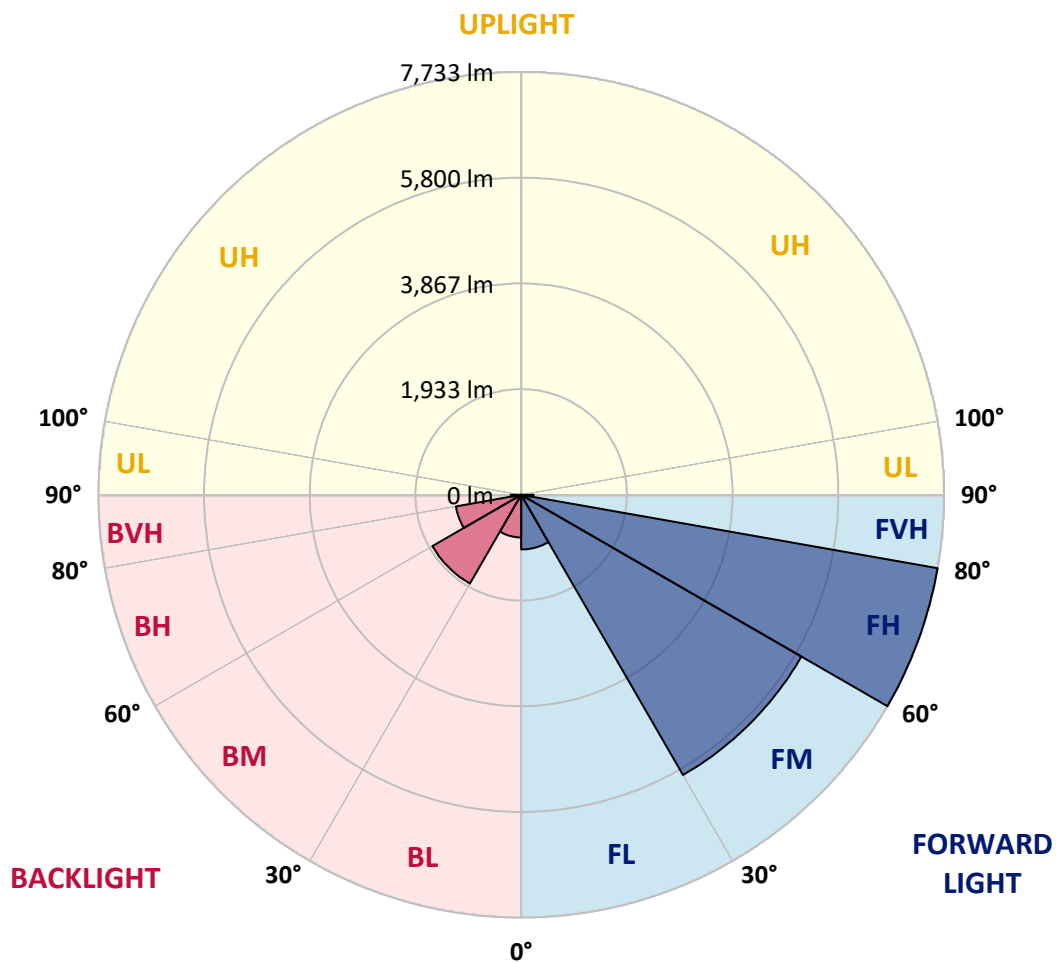
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	999.3	5.3			
FM	(30°-60°)	5917.6	31.3			
FH	(60°-80°)	7733.1	40.8			G4/12000
FVH	(80°-90°)	226.7	1.2			G3/500
BL	(0°-30°)	779.3	4.1	B2/1000		
BM	(30°-60°)	1875.0	9.9	B2/2500		
BH	(60°-80°)	1212.5	6.4	B3/2500		G3/2500
BVH	(80°-90°)	191.2	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-G4**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7
2.5°	2389.1	2384.1	2386.7	2378.0	2357.2	2335.1	2335.1	2311.8	2287.3	2262.6	2235.7
5°	2537.5	2530.2	2524.0	2497.0	2456.5	2411.2	2403.8	2357.2	2306.9	2256.5	2207.5
7.5°	2661.4	2654.1	2635.7	2586.6	2527.7	2460.2	2451.7	2390.3	2324.1	2254.1	2185.4
10°	2749.8	2744.9	2709.3	2646.8	2578.1	2498.3	2483.6	2420.9	2342.4	2255.3	2168.2
12.5°	2798.9	2791.6	2748.6	2675.0	2594.1	2513.0	2498.3	2438.1	2348.5	2252.9	2151.0
15°	2779.2	2775.6	2735.1	2660.3	2579.3	2509.3	2497.0	2435.7	2344.9	2244.3	2135.0
17.5°	2695.9	2704.3	2672.5	2599.0	2532.6	2483.6	2470.1	2412.3	2326.4	2223.4	2110.6
20°	2580.4	2590.3	2574.3	2499.6	2461.5	2429.6	2422.2	2375.7	2295.9	2192.8	2081.1
22.5°	2457.8	2466.4	2467.6	2397.7	2385.3	2373.1	2367.0	2333.9	2268.9	2174.4	2061.5
25°	2373.1	2383.0	2385.3	2324.1	2331.4	2335.1	2333.9	2310.5	2264.0	2174.4	2063.9
27.5°	2351.0	2355.9	2353.5	2297.0	2310.5	2331.4	2332.5	2327.8	2283.5	2198.9	2098.3
30°	2427.0	2429.6	2398.9	2314.2	2327.8	2354.7	2355.9	2353.5	2325.2	2262.6	2175.6
32.5°	2755.9	2753.6	2648.0	2429.6	2383.0	2392.8	2396.4	2418.6	2420.9	2368.2	2287.3
35°	3256.6	3255.4	3132.7	2759.7	2540.0	2488.5	2493.4	2527.7	2558.5	2522.8	2476.2
37.5°	3807.5	3811.2	3736.3	3230.8	2878.7	2664.0	2659.1	2684.8	2740.0	2752.2	2758.5
40°	4418.7	4437.0	4433.3	3771.9	3353.5	2963.3	2914.3	2884.8	2991.5	3059.0	3146.1
42.5°	5116.8	5111.9	5114.3	4365.9	3895.8	3434.6	3343.8	3206.3	3330.2	3446.8	3638.3
45°	5716.9	5736.4	5751.2	4997.8	4503.3	3973.2	3881.2	3630.9	3742.5	3916.7	4208.7
47.5°	6320.5	6286.2	6313.2	5700.9	5179.4	4587.9	4468.9	4131.5	4235.8	4481.2	4925.4
50°	7023.6	7007.7	6885.0	6618.7	5996.5	5211.3	5055.4	4654.2	4806.5	5134.0	5810.1
52.5°	7654.3	7568.5	7472.8	7340.2	6800.3	5842.0	5644.5	5197.8	5477.6	5883.7	6908.4
55°	7885.0	7827.4	7942.7	8114.4	7650.7	6485.0	6264.2	5832.2	6234.7	6741.4	8200.5
57.5°	8130.4	8150.0	8410.2	8757.4	8455.7	7170.9	6931.6	6583.2	7065.4	7701.0	9644.7
60°	8253.1	8331.7	8850.8	9502.3	9221.3	7923.1	7693.6	7445.8	7986.9	8761.2	11085.2
62.5°	8273.9	8379.5	9114.5	9763.6	10275.4	9075.3	8810.2	8541.6	9137.9	9933.0	12128.3
65°	7891.1	8053.2	9091.3	10085.1	11236.1	11000.6	10832.4	10363.7	10679.0	10964.9	12306.1
67.5°	6766.0	6942.7	8191.8	9952.7	12006.7	12998.1	12966.3	12274.1	11869.3	11363.7	10987.0
70°	4966.0	5108.2	6308.3	8508.3	11670.5	14566.3	14622.8	13512.3	12201.8	10517.1	8169.8
71°	4016.2	4138.8	5270.2	7553.7	11015.3	14647.3	14765.2	13567.5	11855.8	9752.6	6839.6
72.5°	2499.6	2568.2	3499.6	5700.9	9485.2	13813.0	14011.7	12860.8	10766.2	8243.4	4834.6
75°	943.6	970.6	1298.2	2514.3	5661.6	10377.2	10617.7	9719.4	7563.6	4705.8	2023.4
77.5°	506.8	520.3	644.2	1045.5	2268.9	5948.7	6258.0	5543.9	3628.4	1646.7	827.0
80°	339.9	348.5	445.4	619.6	1043.0	2265.2	2522.8	2225.8	1358.3	939.9	589.0
82.5°	219.6	224.5	303.0	407.4	673.7	796.4	909.2	949.8	847.9	673.7	355.8
85°	144.8	148.5	200.1	260.1	417.2	392.7	402.5	526.4	578.0	444.2	181.6
87.5°	83.5	85.9	120.3	133.8	187.7	147.3	159.5	250.3	343.6	289.5	104.4
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°	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7	2251.7
2.5°	2223.4	2213.6	2191.5	2178.0	2171.8	2169.5	2166.9	2171.8	2171.8	2169.5	2164.5
5°	2182.9	2164.5	2127.8	2101.9	2088.5	2084.7	2089.7	2095.8	2099.5	2099.5	2095.8
7.5°	2153.5	2126.5	2077.4	2041.8	2021.0	2014.8	2028.3	2050.4	2065.1	2072.5	2073.7
10°	2128.9	2092.1	2038.1	2001.3	1984.1	1981.8	1998.9	2027.1	2057.8	2071.2	2073.7
12.5°	2106.8	2065.1	2006.2	1971.9	1959.6	1965.8	1989.1	2014.8	2050.4	2070.0	2071.2
15°	2086.0	2043.0	1980.5	1945.0	1942.4	1952.3	1974.4	1995.2	2022.2	2046.8	2046.8
17.5°	2061.5	2014.8	1949.8	1916.6	1916.6	1925.2	1940.0	1951.1	1968.2	1991.5	1990.2
20°	2032.0	1984.1	1917.9	1883.5	1876.2	1871.3	1871.3	1873.7	1888.4	1909.3	1913.0
22.5°	2010.0	1960.8	1890.8	1849.2	1816.0	1784.1	1770.6	1765.7	1779.2	1798.9	1803.8
25°	2010.0	1960.8	1882.3	1812.4	1731.3	1670.0	1644.3	1636.9	1650.4	1668.8	1676.1
27.5°	2043.0	1994.0	1901.9	1779.2	1630.8	1532.6	1501.9	1495.8	1508.0	1522.7	1530.1
30°	2120.4	2072.5	1958.4	1741.1	1519.1	1390.3	1355.9	1349.8	1355.9	1362.0	1370.6
32.5°	2249.2	2208.6	2050.4	1706.8	1406.1	1261.4	1219.7	1209.8	1212.3	1213.6	1221.0
35°	2459.0	2440.7	2173.1	1666.3	1299.4	1155.9	1113.0	1093.3	1092.0	1098.2	1106.8
37.5°	2780.5	2791.6	2331.4	1607.4	1211.1	1081.0	1038.1	1018.4	1008.7	1020.9	1030.8
40°	3234.5	3260.3	2514.3	1527.7	1138.7	1036.9	991.4	973.1	959.6	955.9	960.8
42.5°	3824.7	3817.4	2700.8	1425.9	1060.2	1007.4	959.6	939.9	917.9	889.6	883.5
45°	4524.1	4418.7	2856.6	1300.7	970.6	979.2	930.2	903.1	868.7	827.0	822.1
47.5°	5350.0	5059.1	2952.3	1166.9	887.1	942.4	897.0	855.3	804.9	777.9	774.3
50°	6345.1	5808.9	3019.8	1030.8	812.4	895.7	850.4	795.1	746.0	738.7	737.5
52.5°	7523.0	6693.6	3103.2	908.1	753.5	835.7	803.7	747.3	708.0	711.8	711.8
55°	8775.9	7609.0	3105.7	811.0	701.9	765.7	769.4	724.0	693.2	705.6	709.2
57.5°	9918.2	8409.0	2861.5	742.4	652.9	710.5	758.4	732.6	709.2	752.1	755.8
60°	10914.7	9025.1	2336.3	685.9	612.3	689.7	782.9	785.3	780.4	897.0	905.5
62.5°	11279.1	9031.2	1659.0	638.1	590.2	701.9	834.4	838.1	838.1	946.0	962.0
65°	10768.6	8278.9	1104.4	609.8	575.5	728.9	876.1	860.2	822.1	897.0	879.7
67.5°	8969.7	6444.4	807.4	591.4	554.6	730.1	913.0	872.4	807.4	871.3	841.8
70°	6164.7	4100.8	676.1	574.2	530.1	698.1	932.5	868.7	785.3	812.4	773.0
71°	4962.2	3272.6	641.8	568.1	520.3	679.8	935.0	863.8	774.3	791.5	755.8
72.5°	3268.8	2016.1	600.1	554.6	505.6	647.9	928.9	852.8	759.6	760.8	737.5
75°	1289.6	835.7	539.8	523.9	463.8	596.3	901.9	829.5	731.3	706.8	697.0
77.5°	651.5	546.1	474.8	481.0	414.7	543.6	863.8	791.5	692.0	659.0	651.5
80°	476.1	414.7	406.1	417.2	359.6	492.0	815.9	739.9	641.8	676.1	661.3
82.5°	289.5	252.8	317.8	344.8	300.7	439.3	759.6	679.8	578.0	532.5	515.3
85°	137.4	148.5	229.5	254.0	222.2	350.9	694.6	613.5	504.3	435.6	442.9
87.5°	67.5	82.2	131.3	152.2	146.0	257.7	523.9	476.1	397.6	327.7	320.2
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)