

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: P196839

Luminaire Tested: **NAV-AF-03-D-UNV-T4FT-7030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196839  
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-03-D-UNV-T4FT-7030  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 3000K, 1050mA 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: 17657.4 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G3

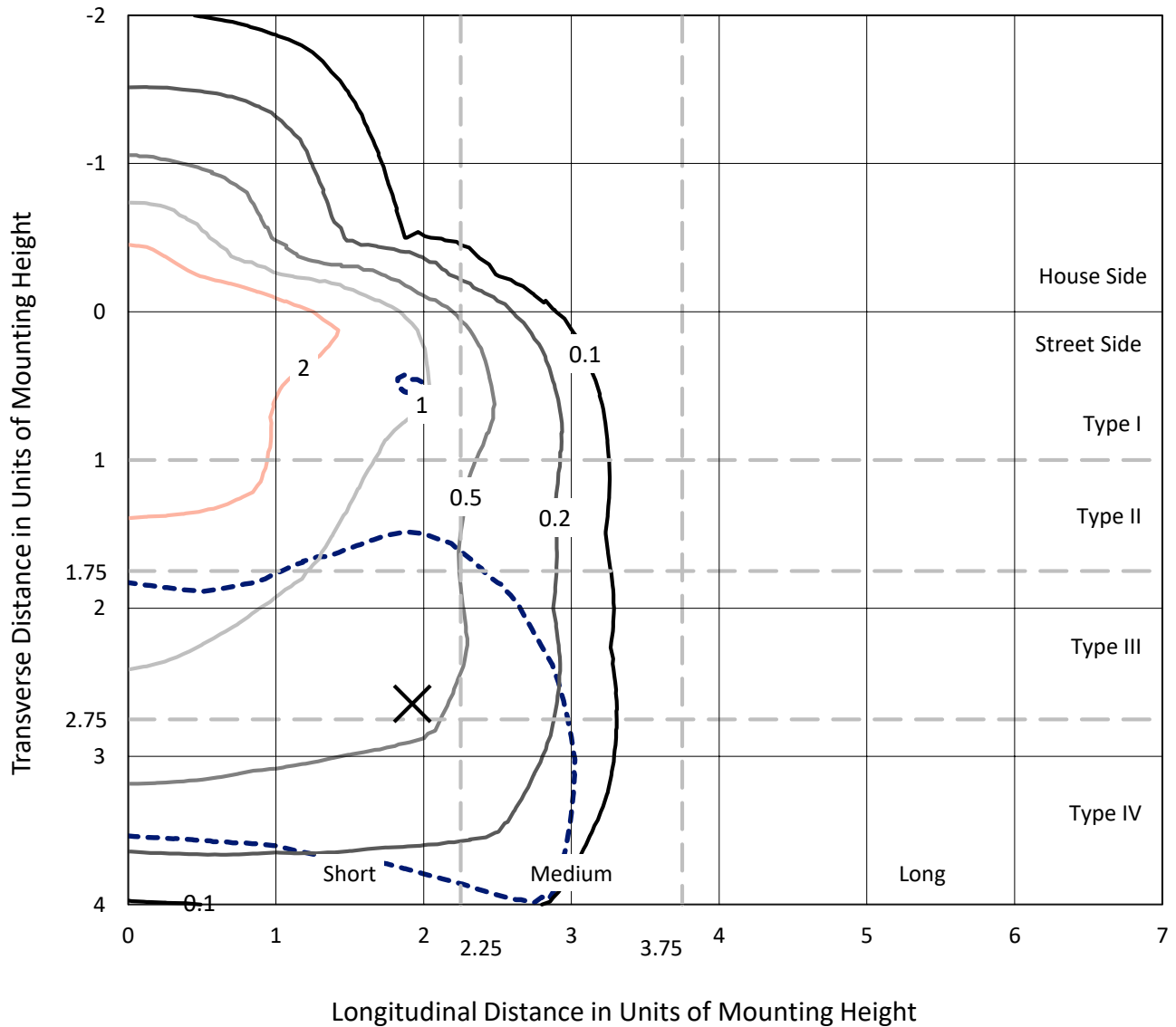
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

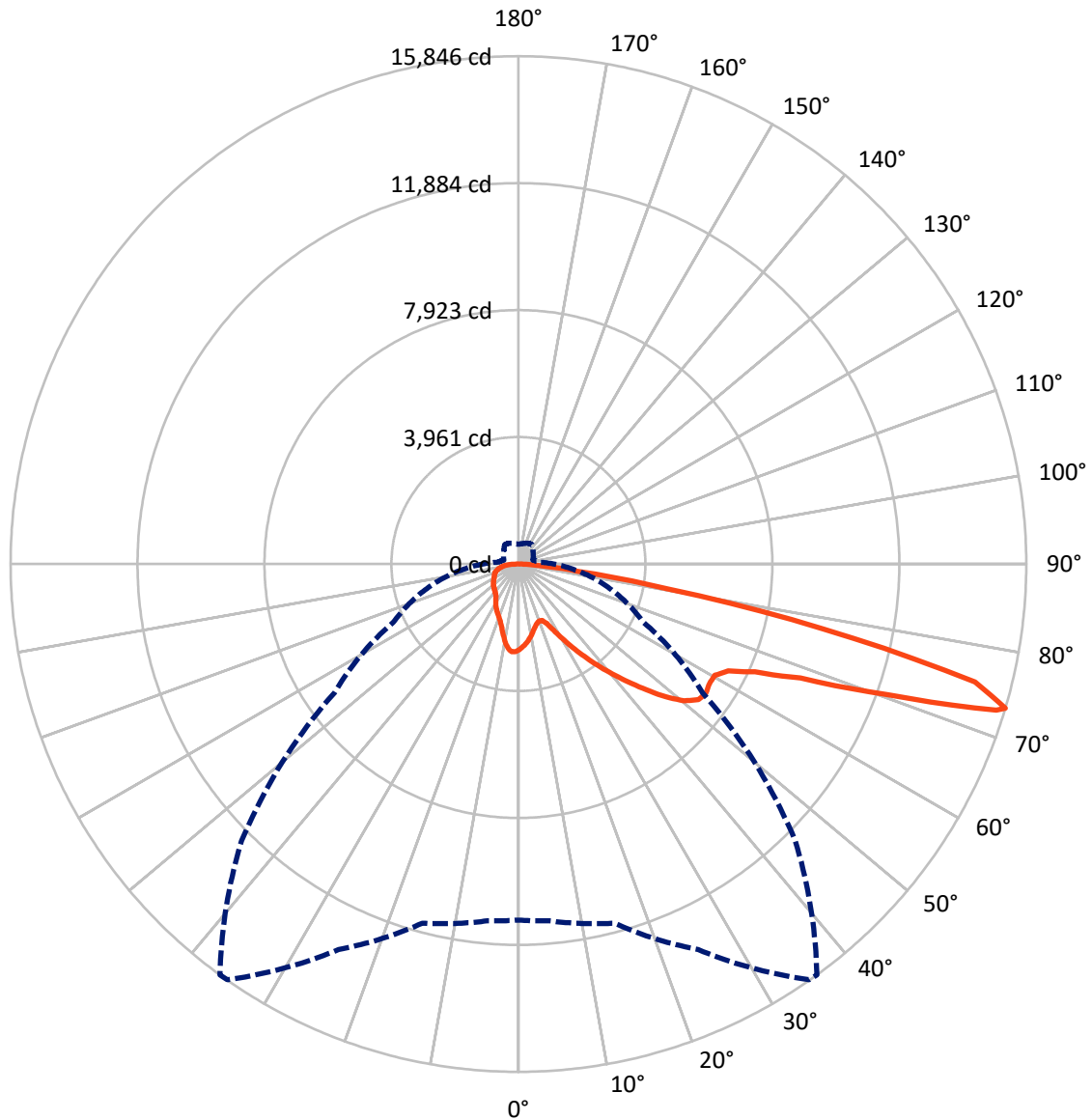
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 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	3404.9	0.0	3404.9
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	14252.5	0.0	14252.5
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	17657.4	0.0	17657.4
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	242.9	1.4
10°-20°	610.1	3.5
20°-30°	978.2	5.5
30°-40°	1618.0	9.2
40°-50°	2503.7	14.2
50°-60°	3351.7	19.0
60°-70°	4378.4	24.8
70°-80°	3576.3	20.3
80°-90°	398.1	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°	17657.4	100.0
0°-180°	17657.4	100.0



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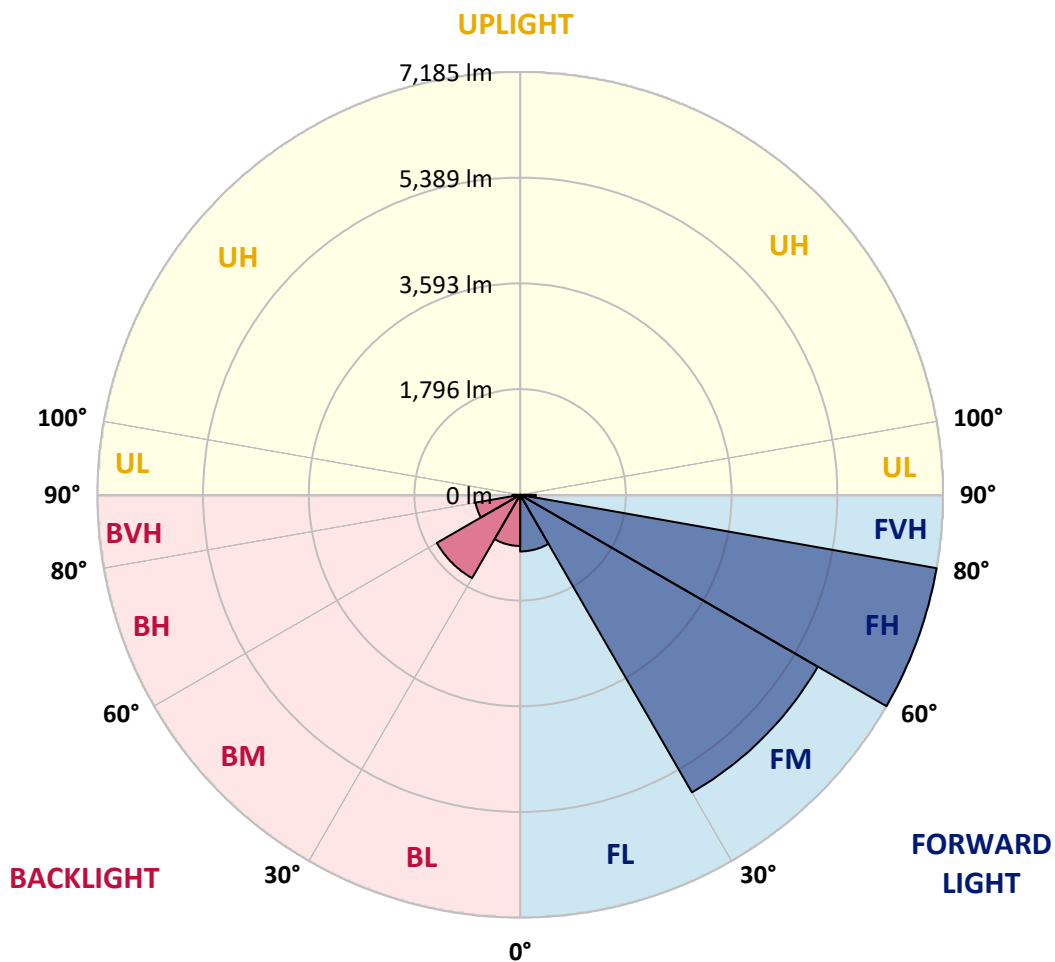
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	962.1	5.4			
FM (30°-60°)	5838.2	33.1			
FH (60°-80°)	7185.3	40.7			G3/7500
FVH (80°-90°)	267.0	1.5			G3/500
BL (0°-30°)	869.1	4.9	B2/1000		
BM (30°-60°)	1635.2	9.3	B2/2500		
BH (60°-80°)	769.4	4.4	B2/1000		G2/1000
BVH (80°-90°)	131.1	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°	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5
2.5°	2572.5	2579.2	2580.3	2588.3	2588.3	2587.0	2590.4	2603.8	2610.6	2626.4	2639.8
5°	2445.8	2453.5	2456.9	2470.4	2487.2	2488.4	2500.7	2526.5	2551.2	2585.9	2615.1
7.5°	2303.1	2312.3	2321.2	2349.2	2373.8	2376.2	2399.8	2441.2	2473.7	2516.3	2569.1
10°	2165.2	2167.4	2176.5	2212.4	2245.0	2248.2	2281.9	2329.1	2372.8	2432.2	2491.7
12.5°	2051.9	2058.7	2056.4	2083.3	2111.4	2113.6	2158.5	2218.0	2281.9	2349.2	2419.9
15°	2012.7	2011.6	1988.0	1986.9	1999.2	2001.4	2045.3	2114.7	2186.6	2269.6	2360.4
17.5°	2039.6	2030.6	1969.0	1930.7	1923.0	1925.1	1957.7	2034.0	2110.3	2205.6	2314.4
20°	2187.7	2153.0	2008.1	1916.2	1890.4	1890.4	1909.5	1971.1	2055.2	2166.4	2303.1
22.5°	2538.8	2485.0	2176.5	2012.7	1921.8	1912.8	1898.3	1945.4	2038.4	2172.0	2349.2
25°	2980.8	2955.0	2485.0	2269.6	2082.3	2053.1	1956.7	1973.4	2073.2	2232.6	2474.8
27.5°	3390.4	3345.5	2890.0	2643.2	2378.3	2333.6	2129.4	2060.9	2156.2	2344.7	2656.6
30°	3629.3	3599.0	3306.1	3070.6	2755.4	2698.1	2405.4	2233.7	2304.4	2529.9	2914.7
32.5°	3889.6	3871.6	3723.5	3509.3	3163.7	3097.5	2762.1	2515.2	2531.0	2775.5	3225.5
35°	4142.0	4165.6	4081.4	3924.4	3603.5	3541.7	3241.1	2883.3	2810.3	3051.5	3557.5
37.5°	4444.8	4450.5	4397.8	4295.7	4065.7	4015.3	3767.3	3275.9	3114.3	3345.5	3878.3
40°	5049.6	4961.0	4754.5	4673.8	4536.9	4505.6	4222.8	3636.0	3397.1	3647.3	4181.3
42.5°	5703.7	5565.6	5242.6	5110.2	5055.2	5026.0	4602.0	3876.1	3661.9	3949.0	4478.5
45°	6230.9	6118.7	5802.4	5638.7	5645.3	5598.2	4932.9	4090.4	3949.0	4252.0	4810.6
47.5°	6750.4	6563.1	6208.5	6184.9	6263.5	6193.9	5249.4	4304.7	4248.5	4581.8	5142.8
50°	6784.0	6613.6	6469.9	6658.4	6793.0	6706.7	5536.5	4585.2	4559.4	4981.1	5571.3
52.5°	6374.5	6349.9	6568.6	6886.2	7109.4	7032.0	5771.0	4873.5	4876.9	5480.5	6093.0
55°	6225.4	6193.9	6456.4	6846.8	7148.8	7102.7	5946.0	5198.9	5229.1	6086.3	6652.8
57.5°	6476.7	6398.1	6449.7	6772.9	7056.7	7029.7	6127.8	5560.1	5615.1	6784.0	7170.0
60°	7256.4	7096.0	6822.1	6882.8	7060.0	7044.4	6388.1	5962.9	6054.8	7511.0	7497.6
62.5°	8424.2	8242.5	7685.0	7415.7	7376.4	7346.1	6817.7	6457.6	6503.5	8036.1	7306.8
65°	9705.5	9510.3	8847.2	8406.3	8175.3	8110.1	7511.0	7054.5	6766.1	8034.9	6564.2
67.5°	11143.7	10937.3	10276.5	9855.7	9605.6	9494.5	8636.3	7536.8	6680.8	7355.2	5252.6
70°	12616.7	12420.4	12117.5	12264.5	12374.3	12205.1	10408.9	7697.4	6068.3	5766.4	3527.2
72.5°	11834.8	11819.1	12049.1	13442.5	15561.7	15595.3	12179.2	7244.0	4688.5	3427.4	1880.3
73°	11108.9	11175.1	11601.4	13268.6	15834.3	15845.6	12214.0	7009.5	4304.7	2952.8	1651.5
75°	5755.2	6204.1	7786.0	10758.9	14661.9	14714.7	10766.7	5306.5	2565.7	1640.2	1113.0
77.5°	1541.4	1521.3	2508.6	5241.5	9775.0	9705.5	6803.1	2569.1	1229.6	1028.7	780.8
80°	528.4	535.2	853.8	1917.3	4562.6	4725.4	2952.8	1120.8	808.8	716.8	553.1
82.5°	269.3	278.2	446.6	815.6	1908.3	1867.9	950.2	659.7	541.9	435.3	309.6
85°	143.5	148.0	245.8	423.0	700.1	707.9	334.4	352.3	344.3	246.8	152.5
87.5°	70.7	72.8	117.8	186.3	259.2	250.2	116.7	152.5	169.4	139.1	84.1
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°	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5	2674.5
2.5°	2656.6	2656.6	2671.2	2695.9	2713.9	2730.7	2741.9	2759.9	2769.9	2768.8	2767.6
5°	2638.7	2649.9	2679.0	2709.4	2729.6	2743.1	2743.1	2750.8	2750.8	2747.6	2743.1
7.5°	2597.2	2616.2	2658.9	2685.8	2691.4	2676.9	2647.7	2625.2	2597.2	2582.6	2577.0
10°	2531.0	2555.7	2609.5	2621.9	2592.7	2541.1	2470.4	2409.8	2355.9	2331.3	2323.4
12.5°	2465.9	2498.4	2548.9	2529.9	2460.3	2359.4	2250.5	2167.4	2106.9	2083.3	2075.5
15°	2412.0	2451.3	2490.6	2431.1	2310.0	2169.8	2049.7	1972.2	1926.2	1908.3	1903.9
17.5°	2376.2	2422.2	2435.6	2324.6	2156.2	1999.2	1892.6	1842.1	1821.9	1814.1	1811.8
20°	2378.3	2430.0	2397.4	2221.3	2008.1	1850.0	1779.3	1764.7	1764.7	1764.7	1763.6
22.5°	2440.1	2485.0	2381.8	2124.9	1865.7	1724.3	1694.1	1706.4	1715.4	1715.4	1714.3
25°	2568.0	2592.7	2393.0	2031.7	1732.2	1615.5	1616.6	1640.2	1648.0	1648.0	1645.8
27.5°	2763.1	2743.1	2413.2	1928.5	1600.9	1516.8	1532.5	1553.7	1559.4	1556.1	1555.0
30°	3007.8	2927.0	2430.0	1807.3	1477.5	1424.8	1438.3	1450.6	1446.1	1438.3	1437.1
32.5°	3281.5	3114.3	2419.9	1671.6	1368.7	1329.4	1337.4	1344.0	1337.4	1318.2	1318.2
35°	3553.0	3283.8	2364.9	1523.5	1282.2	1237.5	1236.3	1257.7	1256.5	1234.1	1235.1
37.5°	3790.9	3417.3	2258.4	1387.8	1208.3	1170.1	1174.6	1188.0	1194.9	1164.4	1161.2
40°	3998.5	3509.3	2108.0	1272.3	1148.9	1151.0	1138.7	1117.4	1109.5	1096.1	1093.8
42.5°	4193.6	3573.3	1948.7	1175.7	1118.5	1144.3	1102.9	1052.3	1031.0	1043.3	1051.2
45°	4385.4	3645.0	1795.0	1096.1	1080.3	1124.2	1066.9	1010.8	986.2	991.7	999.6
47.5°	4619.9	3744.9	1609.9	1010.8	1022.0	1087.1	1044.5	983.9	946.8	924.5	917.7
50°	4928.4	3889.6	1369.8	918.9	960.4	1046.7	1025.4	944.6	904.2	859.4	848.2
52.5°	5314.4	4026.4	1127.4	844.8	909.8	1012.0	994.0	911.0	861.6	807.8	798.8
55°	5699.2	4045.6	918.9	780.8	852.7	964.9	955.8	884.0	814.5	770.8	761.7
57.5°	5968.4	3864.9	778.6	727.0	797.7	906.6	921.0	851.5	775.2	741.6	736.0
60°	5972.9	3432.9	693.4	691.1	756.2	856.0	885.2	813.3	750.5	728.1	723.7
62.5°	5498.4	2766.6	638.4	664.2	725.8	814.5	858.2	792.0	744.9	736.0	731.5
65°	4608.7	2044.1	594.6	639.5	697.8	779.7	835.9	785.3	742.8	739.3	736.0
67.5°	3402.7	1401.2	557.6	608.0	666.4	743.8	814.5	775.2	729.2	742.8	738.1
70°	2140.6	935.7	522.8	572.2	624.9	702.3	786.4	757.2	712.4	704.5	690.0
72.5°	1208.3	676.6	481.3	526.2	571.0	647.4	748.3	727.0	674.2	642.9	628.2
73°	1091.6	640.6	471.2	514.9	558.8	636.1	739.3	718.1	662.9	628.2	614.8
75°	798.8	523.9	425.2	468.9	507.1	584.5	696.7	673.1	613.7	572.2	563.2
77.5°	578.8	403.9	365.7	405.1	438.6	512.8	632.7	605.9	547.5	525.0	516.0
80°	417.4	306.3	302.8	341.1	370.2	445.3	564.4	536.3	480.2	546.4	531.8
82.5°	249.1	196.3	222.2	264.7	295.1	373.5	490.2	457.7	403.9	408.4	347.8
85°	118.9	111.1	138.0	173.9	195.2	255.7	408.4	382.5	323.1	264.7	259.2
87.5°	52.8	50.5	66.2	77.5	104.4	153.7	279.3	247.9	234.5	140.3	110.0
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)