

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: P195885

Luminaire Tested: **NAV-AF-03-D-UNV-T4FT-7050-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195885  
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-7050-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5000K, 1200mA 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: 20028 lumens  
Efficiency: N/A  
Efficacy: 104.9 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 - G4

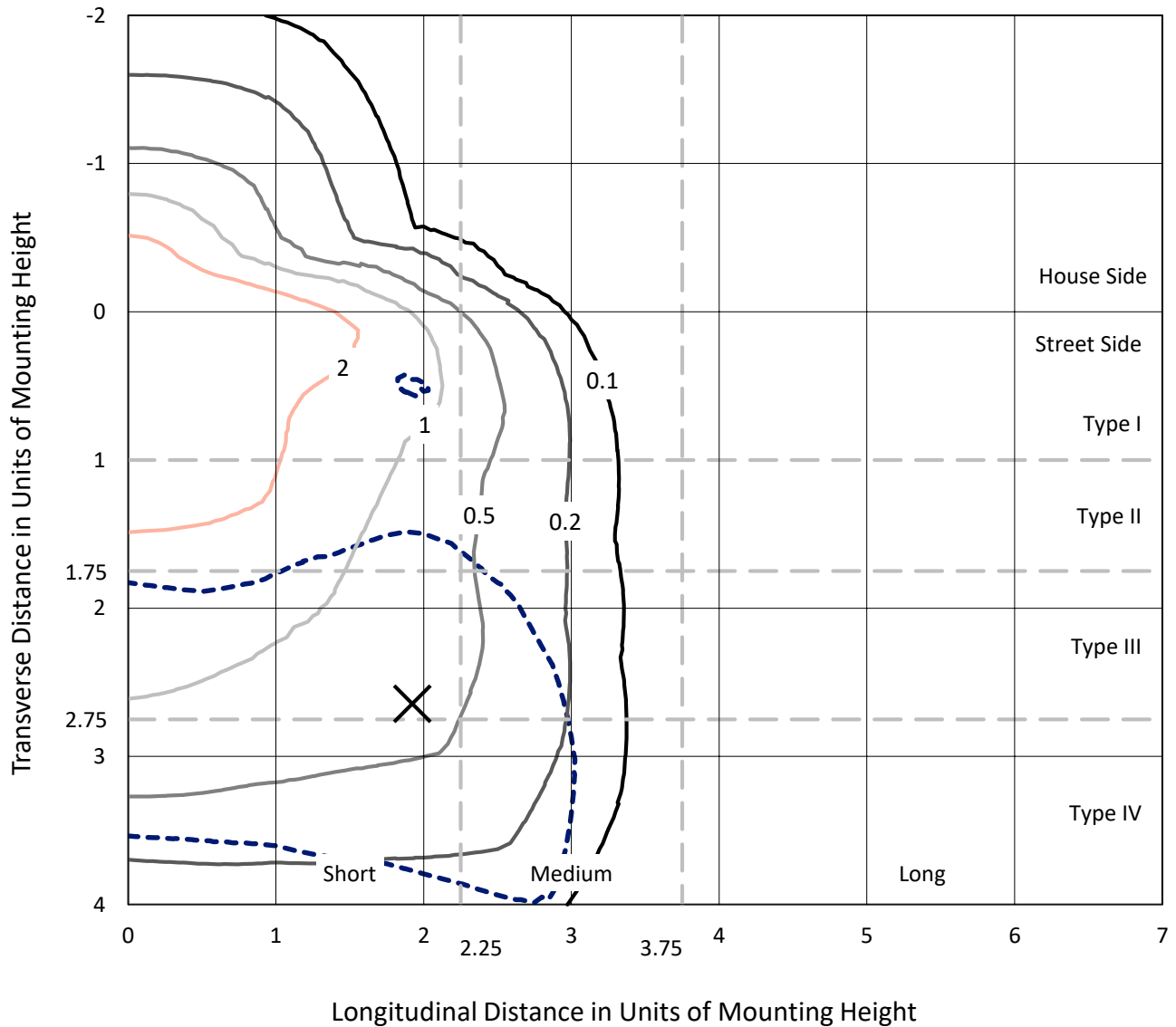
Input Watts (W): 191  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

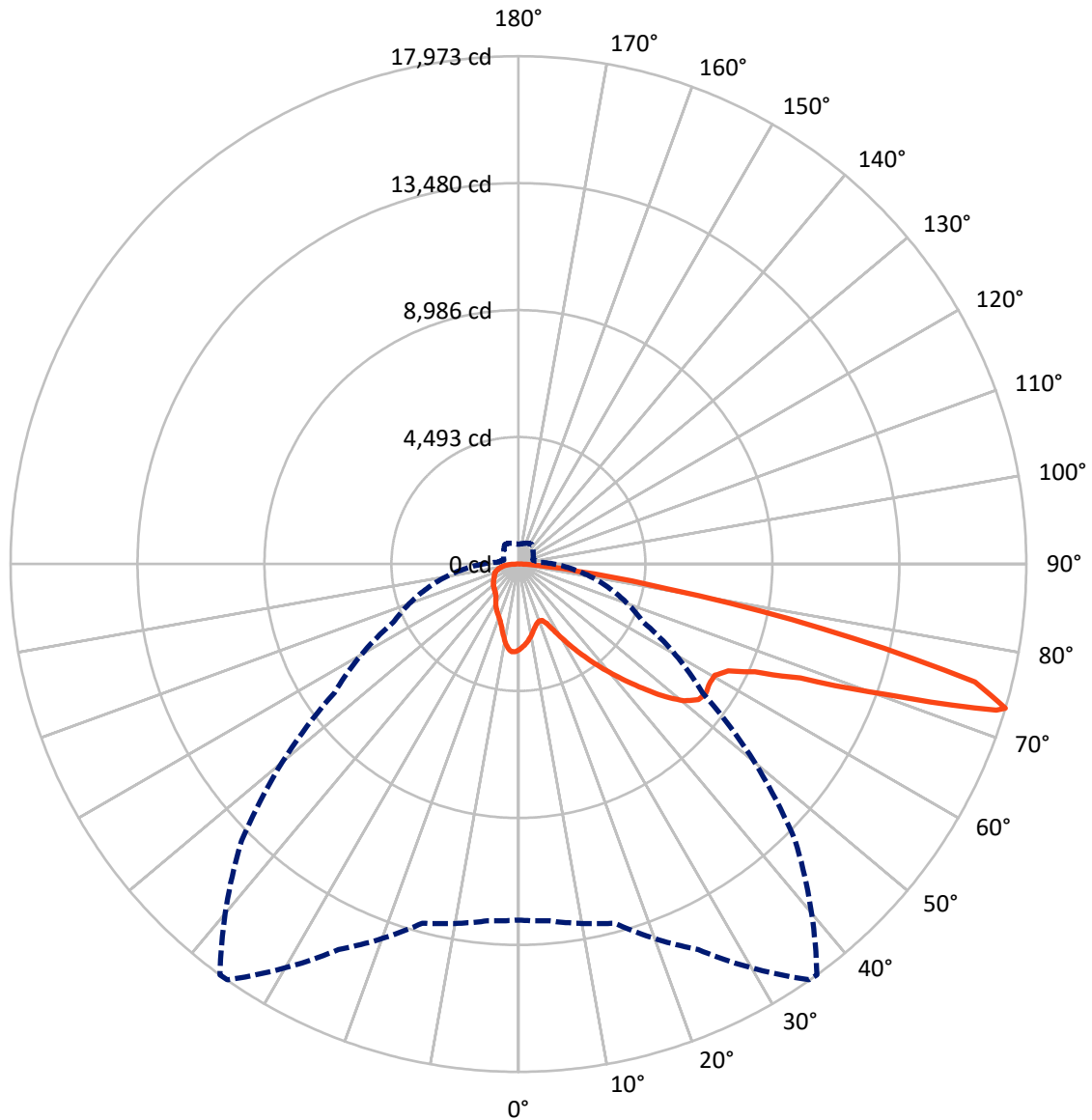
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.9 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	3862.0	0.0	3862.0
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	16166.0	0.0	16166.0
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	20028.0	0.0	20028.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	275.5	1.4
10°-20°	692.0	3.5
20°-30°	1109.5	5.5
30°-40°	1835.2	9.2
40°-50°	2839.8	14.2
50°-60°	3801.7	19.0
60°-70°	4966.2	24.8
70°-80°	4056.5	20.3
80°-90°	451.5	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°	20028.0	100.0
0°-180°	20028.0	100.0



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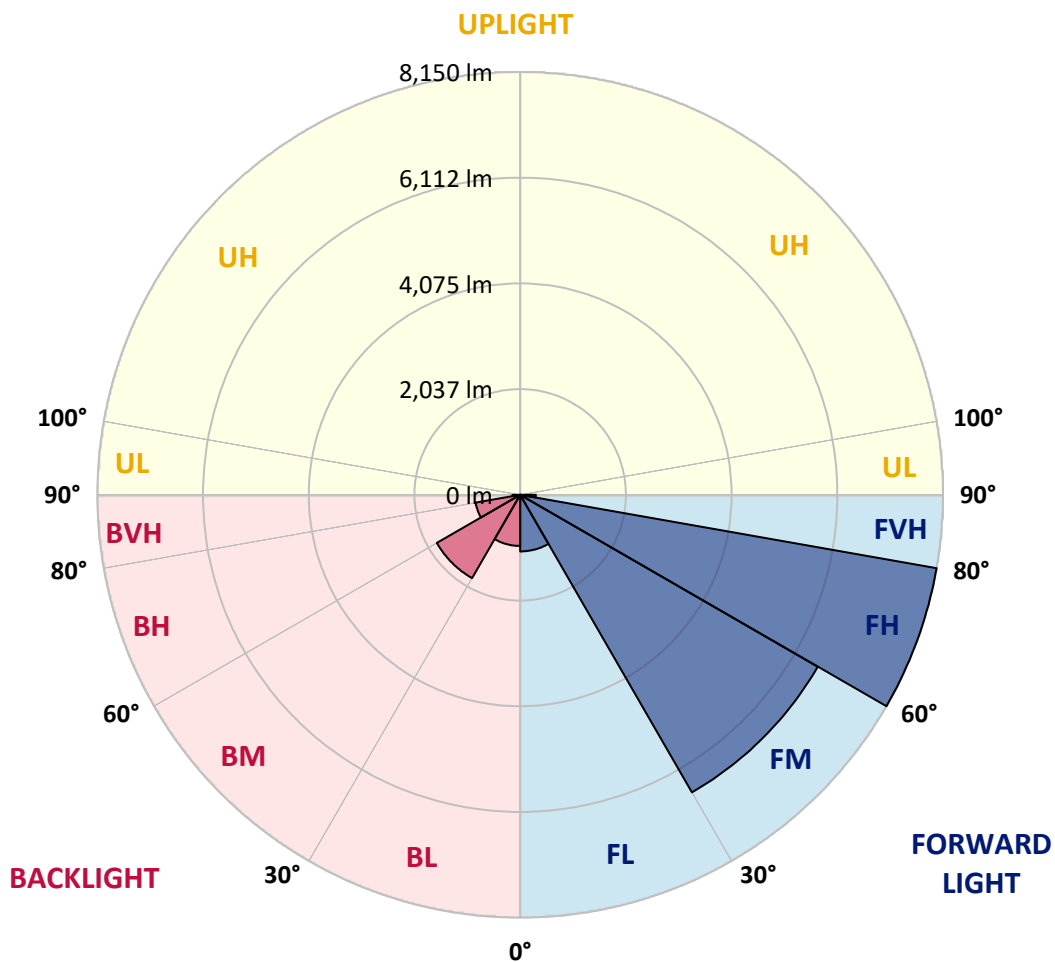
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1091.3	5.4			
FM	(30°-60°)	6622.0	33.1			
FH	(60°-80°)	8149.9	40.7			G4/12000
FVH	(80°-90°)	302.8	1.5			G3/500
BL	(0°-30°)	985.8	4.9	B2/1000		
BM	(30°-60°)	1854.7	9.3	B2/2500		
BH	(60°-80°)	872.7	4.4	B2/1000		G2/1000
BVH	(80°-90°)	148.7	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-G4**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7
2.5°	2917.9	2925.5	2926.8	2935.7	2935.7	2934.4	2938.2	2953.5	2961.1	2978.9	2994.2
5°	2774.1	2783.0	2786.8	2802.1	2821.2	2822.4	2836.4	2865.7	2893.7	2933.1	2966.2
7.5°	2612.5	2622.6	2632.8	2664.6	2692.6	2695.2	2721.9	2769.0	2805.9	2854.2	2914.0
10°	2455.9	2458.5	2468.7	2509.4	2546.3	2550.1	2588.3	2641.7	2691.4	2758.8	2826.2
12.5°	2327.4	2335.1	2332.5	2363.0	2394.9	2397.4	2448.3	2515.7	2588.3	2664.6	2744.8
15°	2282.9	2281.6	2254.9	2253.6	2267.6	2270.2	2319.8	2398.7	2480.1	2574.3	2677.4
17.5°	2313.4	2303.2	2233.3	2190.0	2181.1	2183.6	2220.5	2307.1	2393.6	2501.8	2625.2
20°	2481.4	2441.9	2277.8	2173.4	2144.2	2144.2	2165.8	2235.8	2331.2	2457.2	2612.5
22.5°	2879.7	2818.6	2468.7	2282.9	2179.8	2169.6	2153.1	2206.5	2312.1	2463.6	2664.6
25°	3381.1	3351.8	2818.6	2574.3	2361.8	2328.7	2219.3	2238.3	2351.6	2532.3	2807.2
27.5°	3845.5	3794.6	3278.0	2998.0	2697.7	2646.8	2415.2	2337.6	2445.8	2659.5	3013.3
30°	4116.6	4082.2	3750.1	3482.9	3125.3	3060.4	2728.3	2533.6	2613.7	2869.5	3306.0
32.5°	4411.8	4391.4	4223.5	3980.4	3588.5	3513.4	3132.9	2853.0	2870.8	3148.2	3658.5
35°	4698.1	4724.8	4629.4	4451.2	4087.3	4017.3	3676.3	3270.3	3187.6	3461.2	4035.1
37.5°	5041.7	5048.0	4988.2	4872.4	4611.6	4554.3	4273.1	3715.7	3532.5	3794.6	4399.1
40°	5727.6	5627.0	5392.9	5301.3	5146.0	5110.4	4789.7	4124.2	3853.2	4136.9	4742.6
42.5°	6469.4	6312.9	5946.4	5796.3	5733.9	5700.8	5219.8	4396.5	4153.5	4479.2	5079.9
45°	7067.5	6940.3	6581.4	6395.6	6403.3	6349.8	5595.2	4639.6	4479.2	4822.8	5456.5
47.5°	7656.7	7444.2	7042.1	7015.3	7104.4	7025.5	5954.1	4882.6	4819.0	5196.9	5833.2
50°	7694.9	7501.4	7338.6	7552.3	7705.0	7607.1	6279.8	5200.7	5171.5	5649.9	6319.3
52.5°	7230.4	7202.4	7450.5	7810.7	8063.9	7976.1	6545.8	5527.8	5531.6	6216.2	6911.0
55°	7061.1	7025.5	7323.3	7766.1	8108.4	8056.2	6744.3	5896.8	5931.2	6903.4	7546.0
57.5°	7346.2	7257.1	7315.6	7682.1	8004.1	7973.5	6950.4	6306.6	6368.9	7694.9	8132.6
60°	8230.6	8048.6	7738.1	7806.8	8007.9	7990.1	7245.7	6763.4	6867.7	8519.4	8504.2
62.5°	9555.3	9349.1	8716.7	8411.3	8366.7	8332.4	7733.0	7324.6	7376.7	9115.0	8287.8
65°	11008.5	10787.1	10035.0	9534.9	9272.8	9199.0	8519.4	8001.5	7674.5	9113.7	7445.4
67.5°	12639.8	12405.7	11656.2	11179.0	10895.2	10769.2	9795.8	8548.7	7577.8	8342.6	5957.9
70°	14310.6	14087.9	13744.4	13911.1	14035.8	13843.6	11806.3	8730.7	6883.0	6540.7	4000.8
72.5°	13423.7	13405.9	13666.7	15247.2	17651.0	17689.1	13814.3	8216.6	5317.8	3887.5	2132.7
73°	12600.4	12675.5	13159.0	15050.0	17960.2	17972.9	13853.8	7950.6	4882.6	3349.2	1873.1
75°	6528.0	7037.0	8831.2	12203.4	16630.4	16690.2	12212.3	6019.0	2910.2	1860.4	1262.3
77.5°	1748.4	1725.5	2845.3	5945.2	11087.4	11008.5	7716.5	2914.0	1394.7	1166.9	885.7
80°	599.4	607.0	968.4	2174.7	5175.3	5359.8	3349.2	1271.2	917.5	813.1	627.3
82.5°	305.4	315.6	506.5	925.1	2164.5	2118.7	1077.8	748.2	614.6	493.7	351.2
85°	162.9	168.0	278.7	479.7	794.0	803.0	379.2	399.6	390.7	280.0	173.1
87.5°	80.2	82.7	133.6	211.2	293.9	283.8	132.3	173.1	192.1	157.8	95.4
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°	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7	3033.7
2.5°	3013.3	3013.3	3029.8	3057.8	3078.2	3097.3	3110.0	3130.4	3141.8	3140.6	3139.3
5°	2992.9	3005.7	3038.7	3073.1	3096.0	3111.3	3111.3	3120.2	3120.2	3116.4	3111.3
7.5°	2945.9	2967.5	3015.8	3046.4	3052.7	3036.2	3003.1	2977.7	2945.9	2929.3	2923.0
10°	2870.8	2898.8	2959.9	2973.9	2940.8	2882.2	2802.1	2733.3	2672.3	2644.3	2635.4
12.5°	2797.0	2833.9	2891.1	2869.5	2790.6	2676.1	2552.7	2458.5	2389.8	2363.0	2354.1
15°	2735.9	2780.4	2825.0	2757.5	2620.1	2461.0	2324.9	2237.1	2184.9	2164.5	2159.4
17.5°	2695.2	2747.3	2762.6	2636.6	2445.8	2267.6	2146.7	2089.5	2066.6	2057.6	2055.1
20°	2697.7	2756.3	2719.4	2519.6	2277.8	2098.4	2018.2	2001.7	2001.7	2001.7	2000.4
22.5°	2767.7	2818.6	2701.5	2410.1	2116.2	1955.8	1921.5	1935.5	1945.7	1945.7	1944.4
25°	2912.8	2940.8	2714.3	2304.5	1964.8	1832.4	1833.7	1860.4	1869.3	1869.3	1866.8
27.5°	3134.2	3111.3	2737.2	2187.4	1815.9	1720.4	1738.2	1762.4	1768.8	1765.0	1763.7
30°	3411.6	3320.0	2756.3	2050.0	1675.9	1616.1	1631.4	1645.4	1640.3	1631.4	1630.1
32.5°	3722.1	3532.5	2744.8	1896.0	1552.5	1507.9	1516.8	1524.5	1516.8	1495.2	1495.2
35°	4030.0	3724.6	2682.4	1728.1	1454.5	1403.6	1402.3	1426.5	1425.2	1399.8	1401.0
37.5°	4299.8	3876.1	2561.6	1574.1	1370.5	1327.2	1332.3	1347.6	1355.2	1320.9	1317.0
40°	4535.2	3980.4	2391.0	1443.0	1303.0	1305.6	1291.6	1267.4	1258.5	1243.2	1240.7
42.5°	4756.6	4052.9	2210.3	1333.6	1268.7	1298.0	1250.9	1193.6	1169.4	1183.4	1192.3
45°	4974.2	4134.4	2036.0	1243.2	1225.4	1275.1	1210.2	1146.5	1118.5	1124.9	1133.8
47.5°	5240.2	4247.6	1826.0	1146.5	1159.3	1233.1	1184.7	1116.0	1074.0	1048.5	1040.9
50°	5590.1	4411.8	1553.7	1042.2	1089.3	1187.3	1163.1	1071.5	1025.6	974.7	962.0
52.5°	6027.9	4567.0	1278.9	958.2	1032.0	1147.8	1127.4	1033.3	977.3	916.2	906.0
55°	6464.3	4588.7	1042.2	885.7	967.1	1094.4	1084.2	1002.7	923.8	874.2	864.0
57.5°	6769.7	4383.8	883.1	824.6	904.8	1028.2	1044.7	965.8	879.3	841.1	834.8
60°	6774.8	3893.9	786.4	783.9	857.7	970.9	1004.0	922.6	851.3	825.9	820.8
62.5°	6236.6	3138.0	724.1	753.3	823.3	923.8	973.5	898.4	844.9	834.8	829.7
65°	5227.5	2318.5	674.4	725.3	791.5	884.4	948.0	890.8	842.4	838.6	834.8
67.5°	3859.5	1589.4	632.4	689.7	755.9	843.7	923.8	879.3	827.1	842.4	837.3
70°	2427.9	1061.3	593.0	649.0	708.8	796.6	892.0	858.9	808.0	799.1	782.6
72.5°	1370.5	767.3	545.9	596.8	647.7	734.2	848.8	824.6	764.8	729.1	712.6
73°	1238.2	726.6	534.5	584.1	633.7	721.5	838.6	814.4	752.1	712.6	697.3
75°	906.0	594.3	482.3	531.9	575.2	663.0	790.2	763.5	696.1	649.0	638.8
77.5°	656.6	458.1	414.8	459.4	497.6	581.5	717.7	687.2	621.0	595.5	585.4
80°	473.4	347.4	343.6	386.8	419.9	505.2	640.1	608.3	544.6	619.7	603.2
82.5°	282.5	222.7	252.0	300.3	334.7	423.7	556.1	519.2	458.1	463.2	394.5
85°	134.9	126.0	156.5	197.2	221.4	290.1	463.2	433.9	366.5	300.3	293.9
87.5°	59.8	57.3	75.1	87.8	118.3	174.3	316.9	281.2	266.0	159.1	124.7
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)