

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: P196374

Luminaire Tested: **NAV-AF-06-D-UNV-T4W-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196374  
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-06-D-UNV-T4W-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(6) 70 CRI, 4000K, 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: 23991.3 lumens  
Efficiency: N/A  
Efficacy: 124.3 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

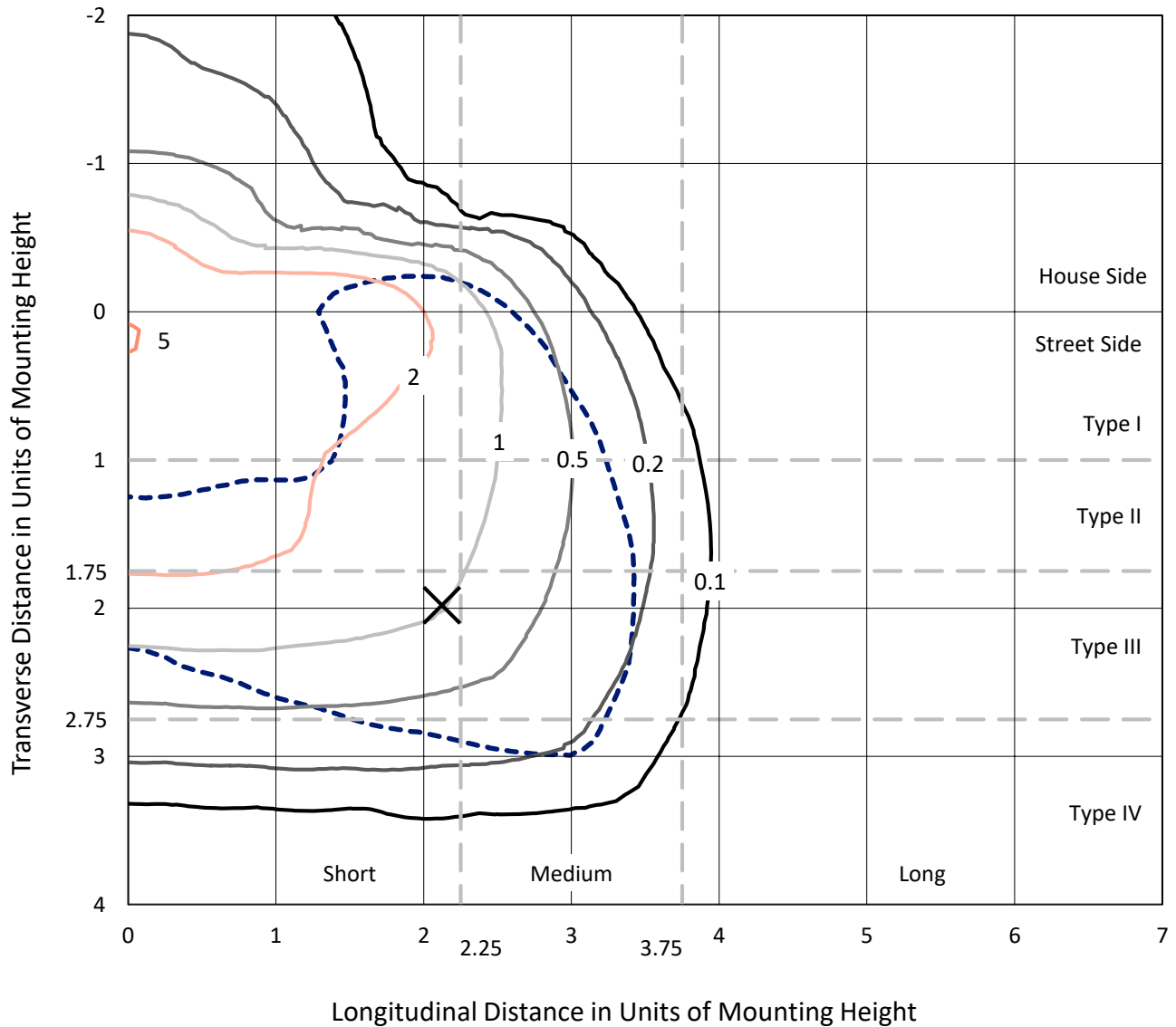
Input Watts (W): 193  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

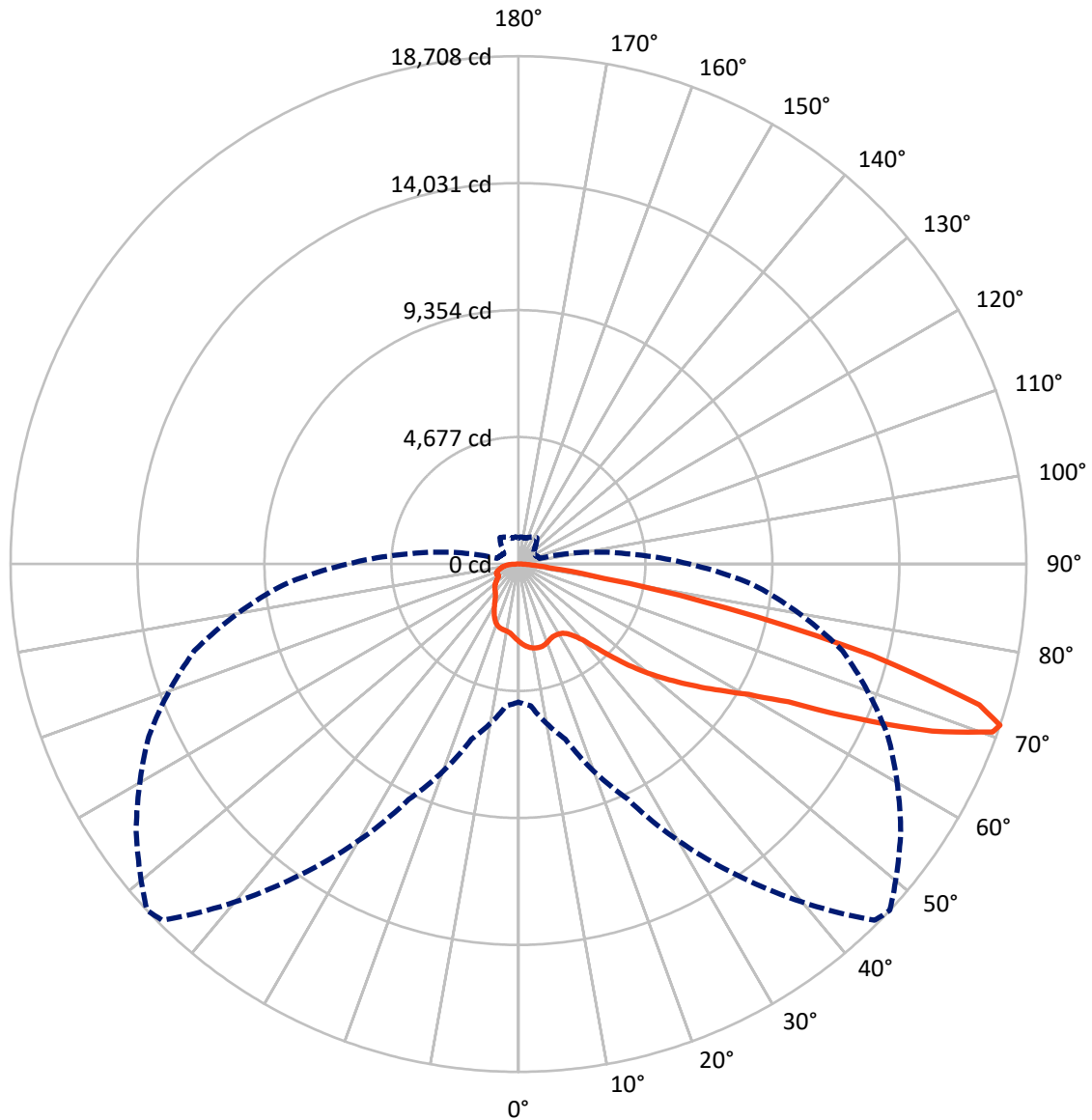
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 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	5141.7	0.0	5141.7
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	18849.6	0.0	18849.6
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	23991.3	0.0	23991.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	272.4	1.1
10°-20°	796.9	3.3
20°-30°	1184.2	4.9
30°-40°	1700.3	7.1
40°-50°	3014.7	12.6
50°-60°	5158.7	21.5
60°-70°	7323.5	30.5
70°-80°	4011.0	16.7
80°-90°	529.5	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°	23991.3	100.0
0°-180°	23991.3	100.0



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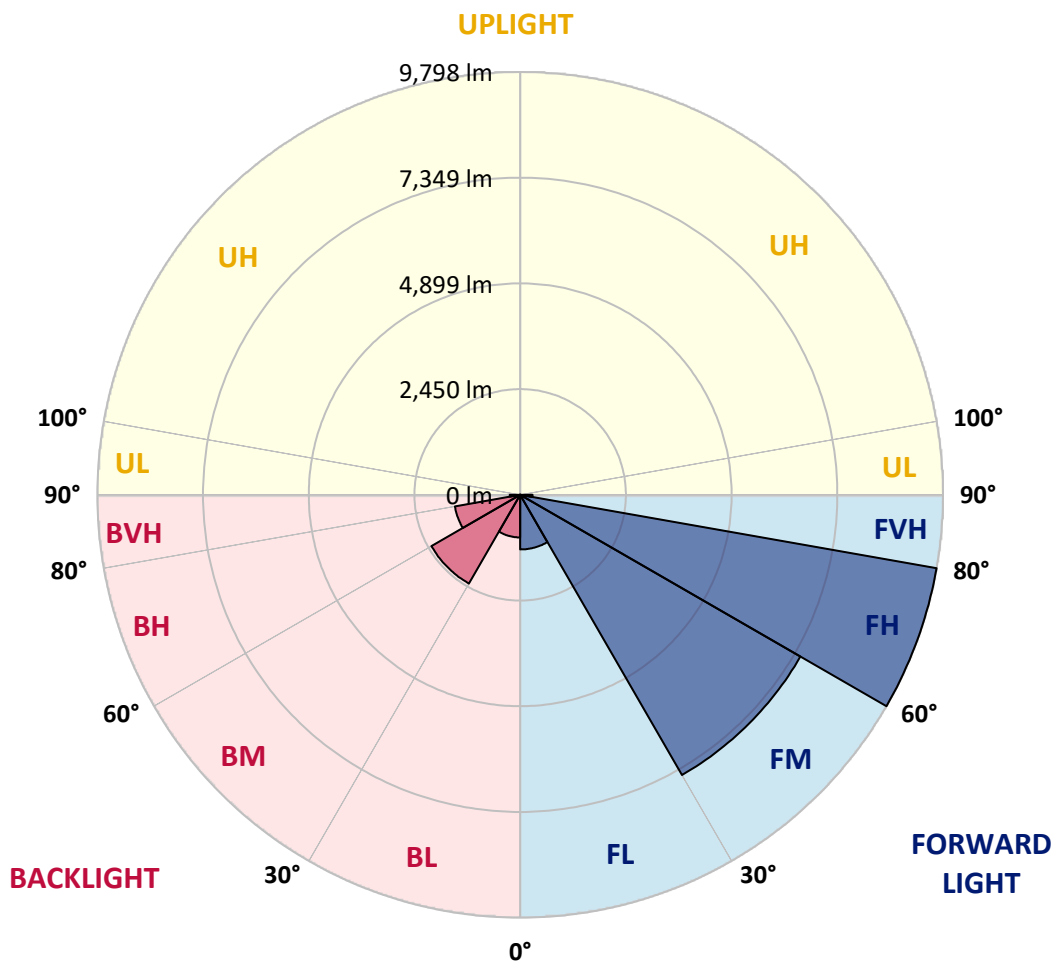
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1266.2	5.3			
FM	(30°-60°)	7498.0	31.3			
FH	(60°-80°)	9798.3	40.8			G4/12000
FVH	(80°-90°)	287.2	1.2			G3/500
BL	(0°-30°)	987.4	4.1	B2/1000		
BM	(30°-60°)	2375.7	9.9	B2/2500		
BH	(60°-80°)	1536.3	6.4	B3/2500		G3/2500
BVH	(80°-90°)	242.3	1.0			G3/500
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°	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0
2.5°	3027.1	3020.9	3023.9	3013.1	2986.7	2958.7	2958.7	2929.1	2898.0	2866.9	2832.8
5°	3215.2	3205.9	3198.2	3163.9	3112.6	3055.0	3045.7	2986.7	2922.9	2859.1	2797.0
7.5°	3372.3	3363.0	3339.6	3277.4	3202.8	3117.2	3106.4	3028.7	2944.7	2856.1	2769.0
10°	3484.2	3477.9	3432.9	3353.6	3266.5	3165.4	3146.8	3067.5	2968.0	2857.6	2747.2
12.5°	3546.4	3537.1	3482.6	3389.3	3286.7	3184.1	3165.4	3089.3	2975.8	2854.5	2725.4
15°	3521.5	3516.8	3465.6	3370.7	3268.1	3179.4	3163.9	3086.1	2971.2	2843.6	2705.3
17.5°	3415.7	3426.7	3386.3	3293.0	3209.0	3146.8	3129.7	3056.7	2947.8	2817.2	2674.2
20°	3269.7	3282.0	3261.9	3167.1	3118.9	3078.4	3069.1	3010.0	2909.0	2778.3	2636.9
22.5°	3114.2	3125.0	3126.6	3038.0	3022.4	3006.9	2999.1	2957.1	2874.7	2755.0	2612.0
25°	3006.9	3019.3	3022.4	2944.7	2954.0	2958.7	2957.1	2927.6	2868.6	2755.0	2615.1
27.5°	2978.9	2985.1	2982.0	2910.5	2927.6	2954.0	2955.6	2949.4	2893.4	2786.1	2658.6
30°	3075.3	3078.4	3039.5	2932.3	2949.4	2983.5	2985.1	2982.0	2946.2	2866.9	2756.5
32.5°	3491.9	3488.9	3355.2	3078.4	3019.3	3031.7	3036.4	3064.5	3067.5	3000.6	2898.0
35°	4126.3	4124.7	3969.3	3496.7	3218.3	3153.0	3159.3	3202.8	3241.6	3196.5	3137.5
37.5°	4824.3	4829.0	4734.2	4093.6	3647.4	3375.3	3369.2	3401.8	3471.8	3487.3	3495.1
40°	5598.6	5621.9	5617.3	4779.3	4249.1	3754.7	3692.5	3655.2	3790.4	3876.0	3986.3
42.5°	6483.3	6477.1	6480.2	5531.8	4936.4	4351.7	4236.7	4062.5	4219.6	4367.3	4609.8
45°	7243.6	7268.5	7287.1	6332.5	5705.9	5034.2	4917.6	4600.5	4742.0	4962.7	5332.7
47.5°	8008.5	7965.0	7999.2	7223.4	6562.6	5813.2	5662.4	5234.8	5367.0	5678.0	6240.7
50°	8899.4	8879.2	8723.7	8386.4	7598.1	6603.0	6405.5	5897.2	6089.9	6505.0	7361.8
52.5°	9698.5	9589.7	9468.4	9300.5	8616.4	7402.2	7151.9	6586.0	6940.4	7455.1	8753.2
55°	9990.9	9917.7	10063.9	10281.6	9693.9	8216.9	7937.0	7389.7	7899.6	8541.7	10390.4
57.5°	10301.7	10326.7	10656.3	11096.3	10713.8	9086.0	8782.7	8341.2	8952.3	9757.6	12220.3
60°	10457.2	10556.8	11214.4	12039.9	11683.9	10039.0	9748.3	9434.2	10119.8	11100.9	14045.6
62.5°	10483.7	10617.4	11548.7	12371.2	13019.5	11498.9	11163.1	10822.6	11578.2	12585.7	15367.2
65°	9998.6	10203.8	11519.1	12778.5	14236.8	13938.3	13725.3	13131.4	13531.0	13893.2	15592.5
67.5°	8572.8	8796.8	10379.5	12610.5	15213.2	16469.4	16429.0	15552.1	15039.1	14398.5	13921.2
70°	6292.1	6472.4	7992.9	10780.7	14787.2	18456.4	18527.9	17120.9	15460.4	13325.8	10351.5
71°	5088.7	5244.2	6677.6	9571.0	13956.9	18559.0	18708.3	17190.9	15021.9	12357.1	8666.1
72.5°	3167.1	3254.1	4434.2	7223.4	12018.2	17501.8	17753.7	16295.3	13641.4	10444.8	6125.7
75°	1195.6	1229.8	1644.9	3185.7	7173.6	13148.5	13453.2	12315.2	9583.5	5962.5	2563.8
77.5°	642.1	659.2	816.2	1324.6	2874.7	7537.4	7929.2	7024.4	4597.3	2086.5	1047.9
80°	430.7	441.5	564.4	785.1	1321.6	2870.1	3196.5	2820.3	1721.1	1190.9	746.2
82.5°	278.3	284.5	384.0	516.2	853.6	1009.0	1152.0	1203.4	1074.3	853.6	450.9
85°	183.4	188.1	253.4	329.6	528.7	497.6	509.9	667.0	732.3	562.8	230.1
87.5°	105.8	108.8	152.3	169.5	237.8	186.6	202.1	317.2	435.4	366.9	132.2
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°	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0	2853.0
2.5°	2817.2	2804.7	2776.8	2759.7	2751.9	2748.8	2745.7	2751.9	2751.9	2748.8	2742.5
5°	2765.9	2742.5	2695.9	2663.3	2646.2	2641.6	2647.7	2655.5	2660.2	2660.2	2655.5
7.5°	2728.6	2694.4	2632.2	2587.1	2560.7	2552.9	2570.0	2598.0	2616.6	2626.0	2627.6
10°	2697.5	2650.9	2582.4	2535.8	2514.0	2510.9	2532.7	2568.4	2607.3	2624.4	2627.6
12.5°	2669.5	2616.6	2542.0	2498.5	2482.9	2490.7	2520.2	2552.9	2598.0	2622.8	2624.4
15°	2643.1	2588.7	2509.4	2464.3	2461.1	2473.6	2501.6	2528.0	2562.2	2593.3	2593.3
17.5°	2612.0	2552.9	2470.5	2428.5	2428.5	2439.4	2458.0	2472.1	2493.9	2523.3	2521.8
20°	2574.7	2514.0	2430.1	2386.5	2377.2	2371.0	2371.0	2374.1	2392.8	2419.2	2423.9
22.5°	2546.6	2484.4	2395.9	2343.0	2301.0	2260.6	2243.5	2237.3	2254.4	2279.2	2285.5
25°	2546.6	2484.4	2385.0	2296.3	2193.7	2116.0	2083.3	2074.0	2091.1	2114.4	2123.7
27.5°	2588.7	2526.5	2409.9	2254.4	2066.3	1941.9	1903.0	1895.2	1910.8	1929.5	1938.8
30°	2686.6	2626.0	2481.4	2206.2	1924.8	1761.5	1718.0	1710.3	1718.0	1725.8	1736.7
32.5°	2849.8	2798.6	2598.0	2162.6	1781.8	1598.3	1545.4	1533.0	1536.1	1537.6	1547.0
35°	3115.7	3092.4	2753.5	2111.4	1646.4	1464.6	1410.1	1385.3	1383.7	1391.5	1402.4
37.5°	3523.0	3537.1	2954.0	2036.7	1534.5	1369.7	1315.3	1290.5	1278.0	1293.5	1306.0
40°	4098.4	4131.0	3185.7	1935.6	1442.8	1313.8	1256.3	1233.0	1215.8	1211.2	1217.4
42.5°	4846.1	4836.8	3422.0	1806.6	1343.3	1276.4	1215.8	1190.9	1163.0	1127.2	1119.4
45°	5732.3	5598.6	3619.4	1648.1	1229.8	1240.7	1178.5	1144.3	1100.8	1047.9	1041.7
47.5°	6778.7	6410.2	3740.7	1478.6	1124.1	1194.1	1136.5	1083.6	1019.9	985.7	981.0
50°	8039.6	7360.1	3826.2	1306.0	1029.3	1135.0	1077.5	1007.5	945.3	936.0	934.4
52.5°	9532.2	8481.2	3931.9	1150.5	954.6	1058.8	1018.3	946.8	897.1	901.7	901.7
55°	11119.6	9641.0	3935.1	1027.7	889.4	970.2	974.9	917.3	878.4	894.0	898.7
57.5°	12567.1	10654.6	3625.6	940.6	827.2	900.2	960.9	928.2	898.7	953.1	957.7
60°	13829.5	11435.2	2960.2	869.1	775.8	873.8	992.0	995.0	988.8	1136.5	1147.4
62.5°	14291.2	11442.9	2102.1	808.4	747.9	889.4	1057.2	1061.9	1061.9	1198.7	1218.9
65°	13644.4	10489.8	1399.3	772.7	729.2	923.5	1110.1	1089.9	1041.7	1136.5	1114.7
67.5°	11365.2	8165.5	1023.1	749.4	702.8	925.1	1156.8	1105.4	1023.1	1103.9	1066.5
70°	7811.0	5196.0	856.6	727.6	671.7	884.6	1181.6	1100.8	995.0	1029.3	979.5
71°	6287.4	4146.5	813.1	719.9	659.2	861.3	1184.7	1094.6	981.0	1002.8	957.7
72.5°	4141.8	2554.4	760.3	702.8	640.6	820.9	1176.9	1080.5	962.4	963.9	934.4
75°	1634.1	1058.8	684.0	663.9	587.7	755.7	1142.7	1051.0	926.6	895.5	883.1
77.5°	825.5	691.8	601.7	609.5	525.5	688.8	1094.6	1002.8	876.9	834.9	825.5
80°	603.2	525.5	514.6	528.7	455.5	623.5	1033.9	937.5	813.1	856.6	838.0
82.5°	366.9	320.3	402.6	436.9	380.9	556.6	962.4	861.3	732.3	674.7	652.9
85°	174.1	188.1	290.7	321.8	281.4	444.7	879.9	777.3	639.0	552.0	561.3
87.5°	85.5	104.1	166.3	192.8	185.1	326.5	663.9	603.2	503.7	415.1	405.8
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)