

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: P197345

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197345
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-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24247 lumens
Efficiency: N/A
Efficacy: 86.9 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

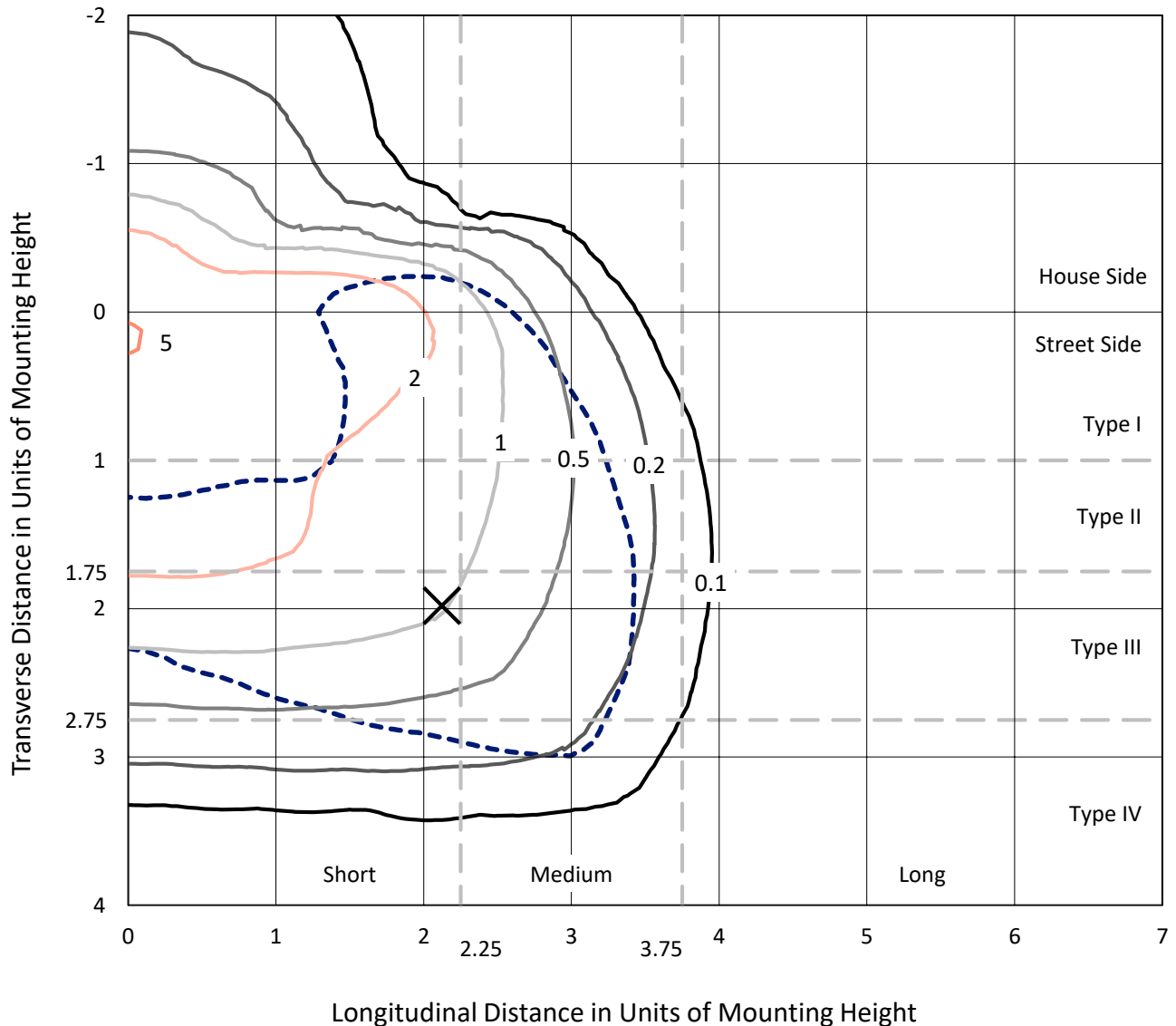
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

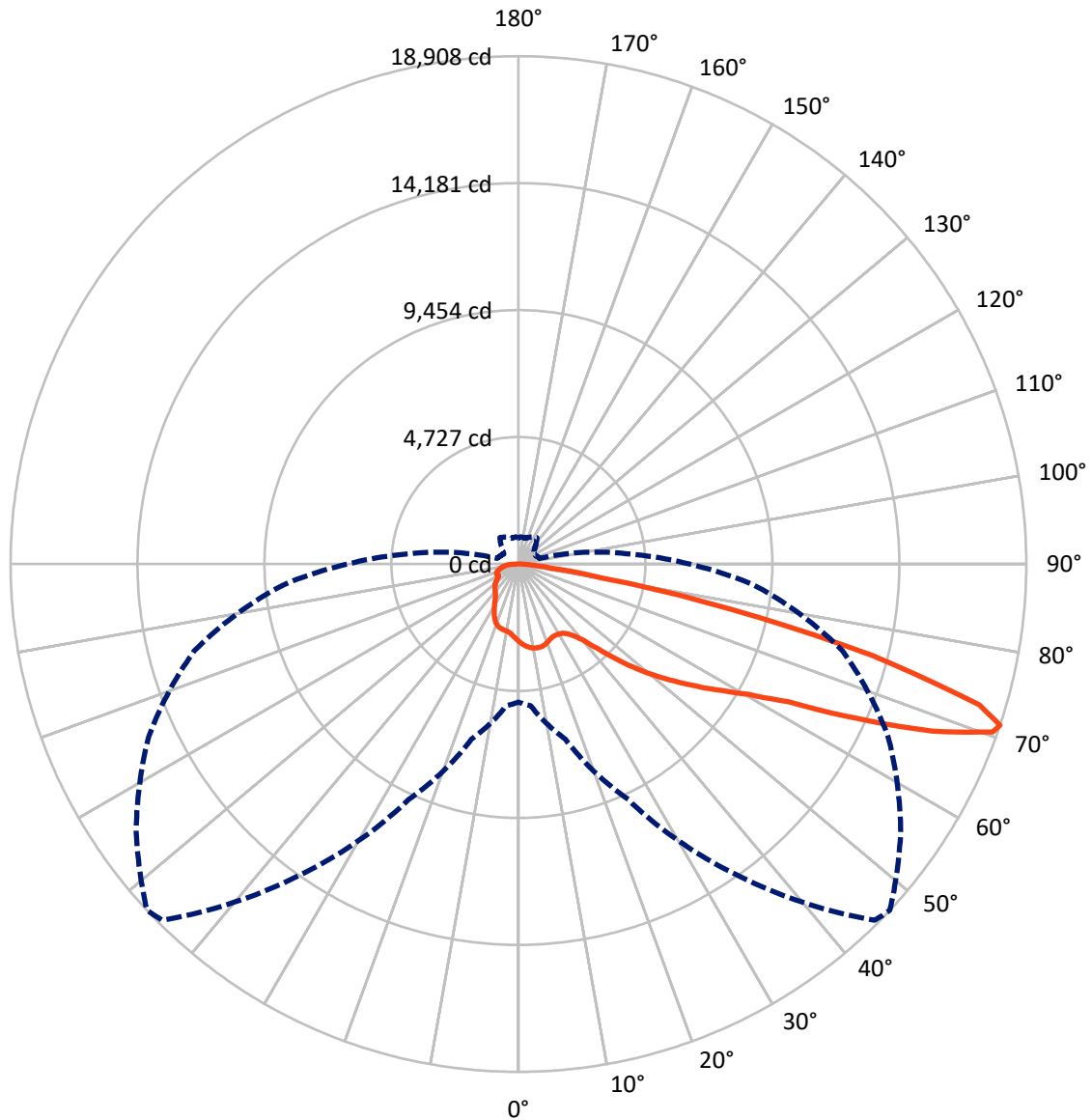
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.3 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
House Side	Lumens	5196.5	0.0	5196.5
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	19050.5	0.0	19050.5
	% Fixture	78.6	0.0	78.6
Total	Lumens	24247.0	0.0	24247.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	275.3	1.1
10°-20°	805.4	3.3
20°-30°	1196.8	4.9
30°-40°	1718.5	7.1
40°-50°	3046.9	12.6
50°-60°	5213.6	21.5
60°-70°	7401.6	30.5
70°-80°	4053.8	16.7
80°-90°	535.1	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°	24247.0	100.0
0°-180°	24247.0	100.0



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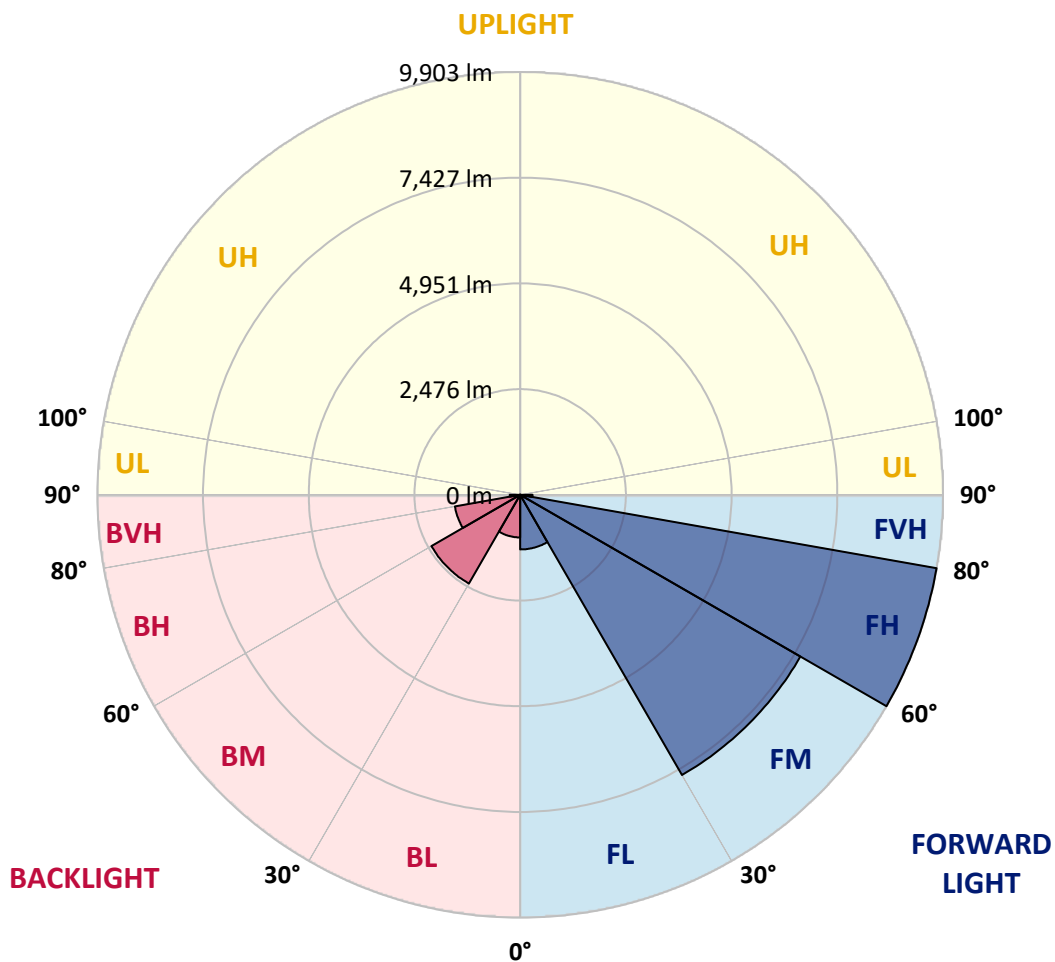
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1279.6	5.3			
FM	(30°-60°)	7577.9	31.3			
FH	(60°-80°)	9902.7	40.8			G4/12000
FVH	(80°-90°)	290.2	1.2			G3/500
BL	(0°-30°)	997.9	4.1	B2/1000		
BM	(30°-60°)	2401.1	9.9	B2/2500		
BH	(60°-80°)	1552.6	6.4	B3/2500		G3/2500
BVH	(80°-90°)	244.9	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°	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4
2.5°	3059.4	3053.1	3056.2	3045.2	3018.5	2990.2	2990.2	2960.4	2928.9	2897.5	2862.9
5°	3249.5	3240.1	3232.2	3197.6	3145.8	3087.6	3078.2	3018.5	2954.1	2889.7	2826.8
7.5°	3408.2	3398.8	3375.2	3312.3	3236.9	3150.5	3139.5	3060.9	2976.1	2886.5	2798.5
10°	3521.3	3515.0	3469.5	3389.3	3301.3	3199.2	3180.4	3100.2	2999.7	2888.1	2776.5
12.5°	3584.2	3574.8	3519.8	3425.5	3321.8	3218.1	3199.2	3122.2	3007.5	2884.9	2754.5
15°	3559.0	3554.3	3502.5	3406.6	3302.9	3213.4	3197.6	3119.1	3002.8	2873.9	2734.1
17.5°	3452.2	3463.2	3422.3	3328.1	3243.2	3180.4	3163.1	3089.2	2979.2	2847.2	2702.7
20°	3304.5	3317.1	3296.6	3200.8	3152.1	3111.2	3101.8	3042.1	2939.9	2808.0	2665.0
22.5°	3147.4	3158.4	3159.9	3070.4	3054.6	3038.9	3031.1	2988.7	2905.4	2784.4	2639.8
25°	3038.9	3051.5	3054.6	2976.1	2985.5	2990.2	2988.7	2958.8	2899.1	2784.4	2643.0
27.5°	3010.7	3016.9	3013.8	2941.5	2958.8	2985.5	2987.1	2980.8	2924.2	2815.8	2687.0
30°	3108.1	3111.2	3071.9	2963.5	2980.8	3015.4	3016.9	3013.8	2977.7	2897.5	2786.0
32.5°	3529.2	3526.0	3390.9	3111.2	3051.5	3064.1	3068.8	3097.1	3100.2	3032.6	2928.9
35°	4170.3	4168.7	4011.6	3533.9	3252.6	3186.6	3192.9	3236.9	3276.2	3230.6	3170.9
37.5°	4875.8	4880.5	4784.7	4137.3	3686.3	3411.3	3405.1	3438.1	3508.8	3524.5	3532.3
40°	5658.3	5681.9	5677.2	4830.2	4294.4	3794.7	3731.9	3694.2	3830.9	3917.3	4028.9
42.5°	6552.4	6546.1	6549.3	5590.8	4988.9	4398.1	4281.9	4105.9	4264.6	4413.8	4659.0
45°	7320.8	7345.9	7364.8	6400.0	5766.7	5087.9	4970.1	4649.5	4792.5	5015.7	5389.6
47.5°	8093.9	8049.9	8084.4	7300.4	6632.5	5875.2	5722.8	5290.6	5424.2	5738.5	6307.3
50°	8994.2	8973.8	8816.7	8475.7	7679.0	6673.4	6473.8	5960.0	6154.9	6574.4	7440.2
52.5°	9801.9	9691.9	9569.3	9399.6	8708.3	7481.1	7228.1	6656.1	7014.4	7534.5	8846.5
55°	10097.3	10023.5	10171.2	10391.1	9797.2	8304.4	8021.6	7468.5	7983.9	8632.8	10501.1
57.5°	10411.6	10436.7	10769.8	11214.5	10828.0	9182.8	8876.4	8430.1	9047.7	9861.6	12350.6
60°	10568.7	10669.3	11333.9	12168.3	11808.5	10146.0	9852.2	9534.8	10227.7	11219.2	14195.3
62.5°	10595.4	10730.6	11671.8	12503.0	13158.2	11621.5	11282.1	10938.0	11701.6	12719.8	15530.9
65°	10105.2	10312.6	11641.9	12914.7	14388.6	14086.9	13871.6	13271.4	13675.2	14041.3	15758.8
67.5°	8664.3	8890.5	10490.1	12745.0	15375.4	16645.0	16604.2	15717.9	15199.4	14552.0	14069.6
70°	6359.1	6541.4	8078.2	10895.5	14944.8	18653.2	18725.4	17303.4	15625.2	13467.8	10461.9
71°	5142.9	5300.1	6748.8	9673.1	14105.8	18756.9	18907.7	17374.1	15182.1	12488.9	8758.5
72.5°	3200.8	3288.8	4481.4	7300.4	12146.3	17688.4	17942.9	16469.0	13786.8	10556.1	6191.0
75°	1208.3	1242.9	1662.5	3219.6	7250.1	13288.7	13596.6	12446.4	9685.6	6026.0	2591.1
77.5°	649.0	666.2	824.9	1338.8	2905.4	7617.8	8013.7	7099.2	4646.4	2108.7	1059.1
80°	435.3	446.3	570.4	793.5	1335.6	2900.7	3230.6	2850.4	1739.5	1203.6	754.2
82.5°	281.3	287.6	388.1	521.7	862.7	1019.8	1164.3	1216.2	1085.8	862.7	455.7
85°	185.4	190.1	256.1	333.1	534.2	502.8	515.4	674.1	740.1	568.8	232.6
87.5°	106.8	110.0	154.0	171.3	240.4	188.6	204.3	320.5	440.0	370.8	133.6
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°	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4	2883.4
2.5°	2847.2	2834.7	2806.4	2789.1	2781.2	2778.1	2775.0	2781.2	2781.2	2778.1	2771.8
5°	2795.4	2771.8	2724.7	2691.7	2674.4	2669.7	2676.0	2683.8	2688.5	2688.5	2683.8
7.5°	2757.7	2723.1	2660.2	2614.7	2588.0	2580.1	2597.4	2625.7	2644.5	2654.0	2655.5
10°	2726.2	2679.1	2610.0	2562.8	2540.8	2537.7	2559.7	2595.8	2635.1	2652.4	2655.5
12.5°	2698.0	2644.5	2569.1	2525.1	2509.4	2517.3	2547.1	2580.1	2625.7	2650.8	2652.4
15°	2671.2	2616.2	2536.1	2490.5	2487.4	2500.0	2528.3	2555.0	2589.5	2621.0	2621.0
17.5°	2639.8	2580.1	2496.8	2454.4	2454.4	2465.4	2484.3	2498.4	2520.4	2550.3	2548.7
20°	2602.1	2540.8	2456.0	2412.0	2402.6	2396.3	2396.3	2399.4	2418.3	2445.0	2449.7
22.5°	2573.8	2511.0	2421.4	2368.0	2325.6	2284.7	2267.4	2261.1	2278.4	2303.6	2309.8
25°	2573.8	2511.0	2410.4	2320.8	2217.1	2138.6	2105.6	2096.1	2113.4	2137.0	2146.4
27.5°	2616.2	2553.4	2435.5	2278.4	2088.3	1962.6	1923.3	1915.4	1931.2	1950.0	1959.4
30°	2715.2	2654.0	2507.8	2229.7	1945.3	1780.3	1736.3	1728.5	1736.3	1744.2	1755.2
32.5°	2880.2	2828.4	2625.7	2185.7	1800.7	1615.3	1561.9	1549.3	1552.5	1554.0	1563.5
35°	3148.9	3125.4	2782.8	2133.9	1664.0	1480.2	1425.2	1400.0	1398.5	1406.3	1417.3
37.5°	3560.6	3574.8	2985.5	2058.4	1550.9	1384.3	1329.3	1304.2	1291.6	1307.3	1319.9
40°	4142.0	4175.0	3219.6	1956.3	1458.2	1327.8	1269.6	1246.1	1228.8	1224.1	1230.3
42.5°	4897.8	4888.4	3458.5	1825.9	1357.6	1290.1	1228.8	1203.6	1175.3	1139.2	1131.4
45°	5793.5	5658.3	3658.0	1665.6	1242.9	1253.9	1191.1	1156.5	1112.5	1059.1	1052.8
47.5°	6851.0	6478.6	3780.6	1494.3	1136.1	1206.8	1148.6	1095.2	1030.8	996.2	991.5
50°	8125.3	7438.6	3867.0	1319.9	1040.2	1147.1	1088.9	1018.2	955.4	945.9	944.4
52.5°	9633.8	8571.6	3973.9	1162.8	964.8	1070.1	1029.2	956.9	906.7	911.4	911.4
55°	11238.1	9743.8	3977.0	1038.6	898.8	980.5	985.2	927.1	887.8	903.5	908.2
57.5°	12701.0	10768.3	3664.3	950.6	835.9	909.8	971.1	938.1	908.2	963.2	967.9
60°	13976.9	11557.1	2991.8	878.4	784.1	883.1	1002.5	1005.6	999.4	1148.6	1159.6
62.5°	14443.6	11564.9	2124.4	817.1	755.8	898.8	1068.5	1073.2	1073.2	1211.5	1231.9
65°	13789.9	10601.7	1414.2	780.9	736.9	933.4	1121.9	1101.5	1052.8	1148.6	1126.6
67.5°	11486.4	8252.6	1033.9	757.4	710.2	934.9	1169.1	1117.2	1033.9	1115.6	1077.9
70°	7894.3	5251.4	865.8	735.4	678.8	894.1	1194.2	1112.5	1005.6	1040.2	989.9
71°	6354.4	4190.7	821.8	727.5	666.2	870.5	1197.3	1106.2	991.5	1013.5	967.9
72.5°	4186.0	2581.7	768.4	710.2	647.4	829.7	1189.5	1092.1	972.6	974.2	944.4
75°	1651.5	1070.1	691.4	671.0	594.0	763.7	1154.9	1062.2	936.5	905.1	892.5
77.5°	834.4	699.2	608.1	616.0	531.1	696.1	1106.2	1013.5	886.2	843.8	834.4
80°	609.7	531.1	520.1	534.2	460.4	630.1	1044.9	947.5	821.8	865.8	846.9
82.5°	370.8	323.7	407.0	441.5	385.0	562.5	972.6	870.5	740.1	682.0	660.0
85°	176.0	190.1	293.8	325.3	284.4	449.4	889.4	785.7	645.8	557.8	567.2
87.5°	86.4	105.3	168.1	194.8	187.0	330.0	671.0	609.7	509.1	419.5	410.1
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)