

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: P195894

Luminaire Tested: **NAV-AF-06-D-UNV-T4W-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195894
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-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5000K, 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: 23453 lumens
Efficiency: N/A
Efficacy: 121.5 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

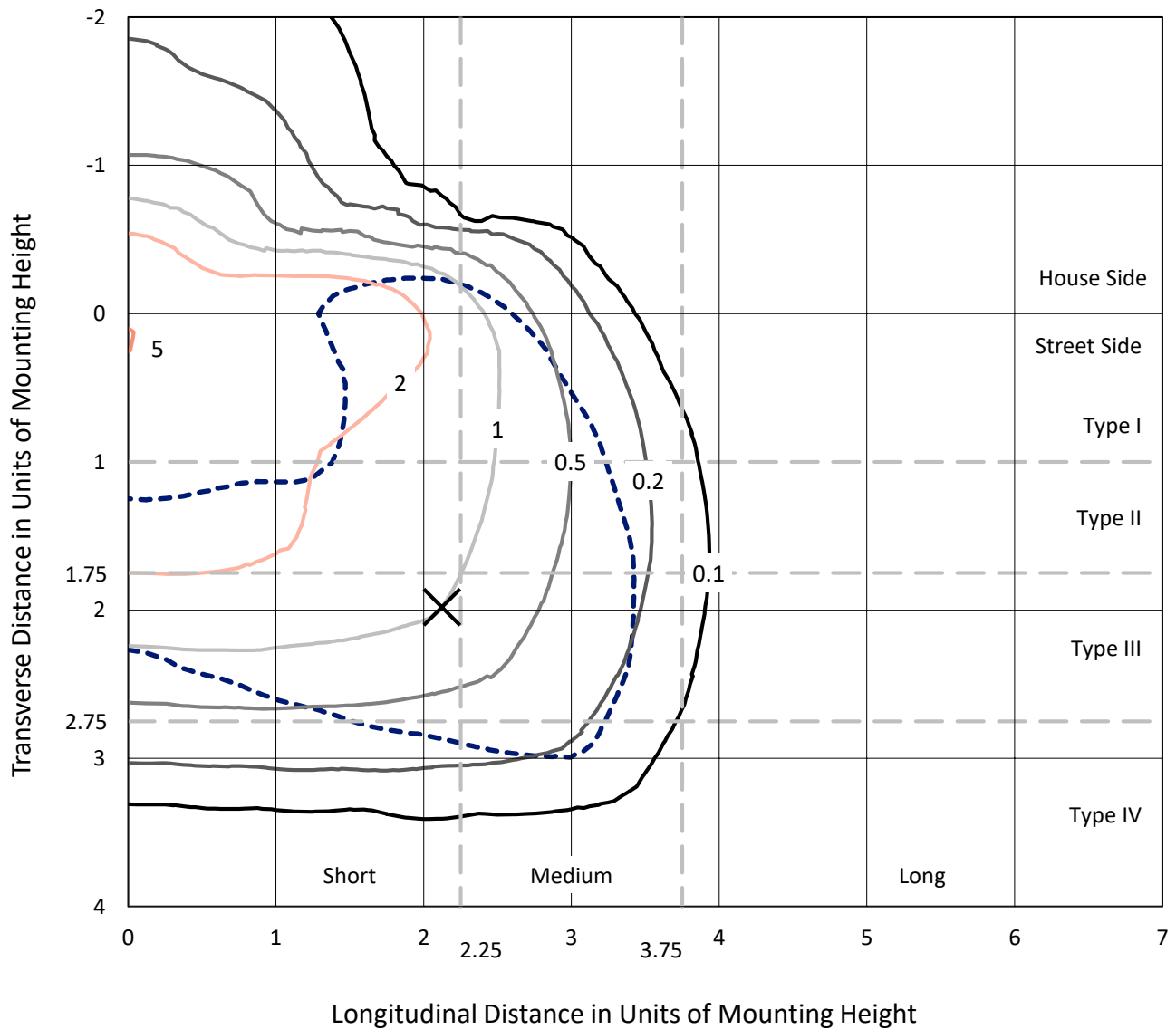


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Iso-Footcandle Lines of Horizontal Illumination

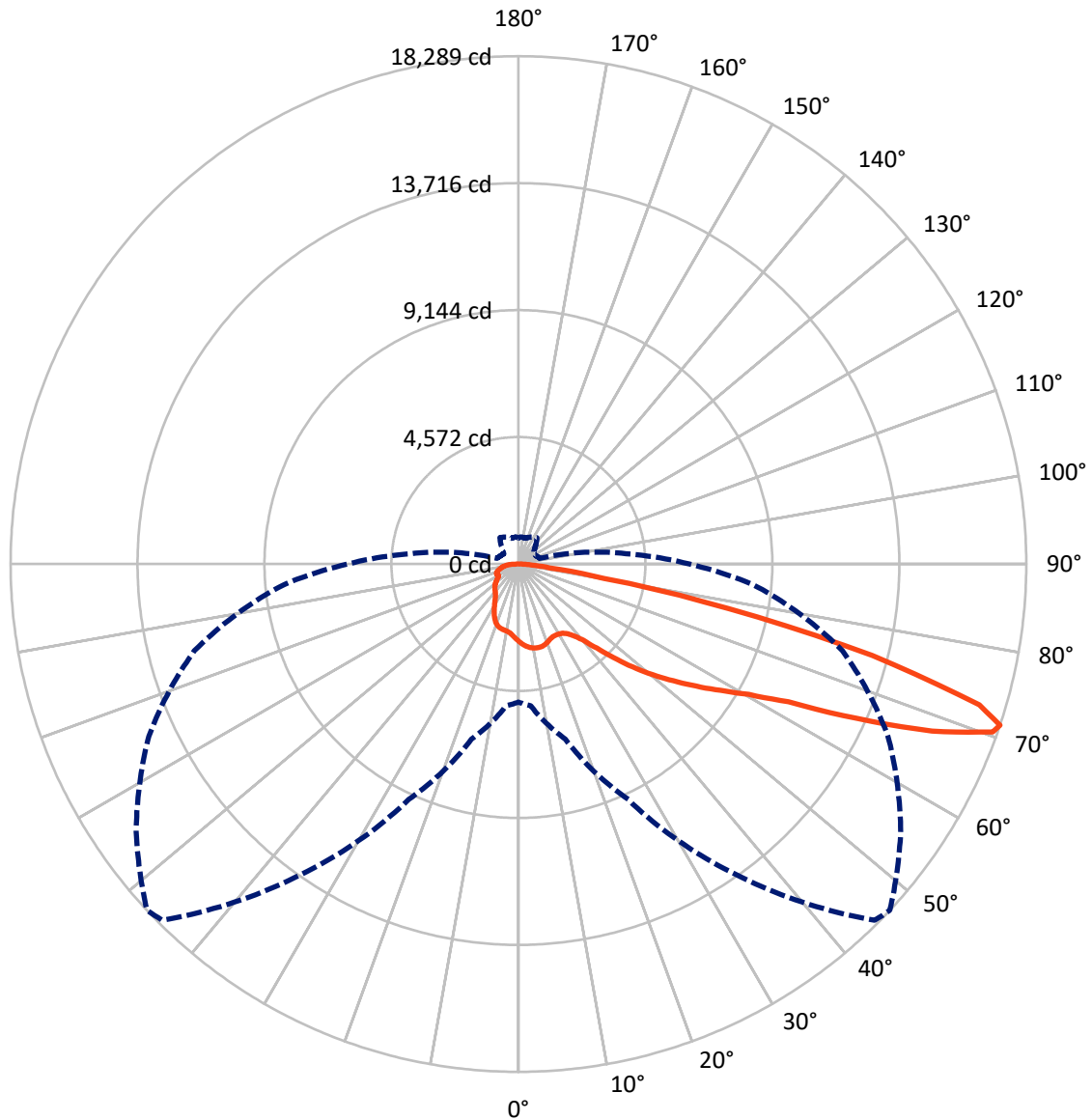
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.1 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
House Side	Lumens	5026.3	0.0	5026.3
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	18426.7	0.0	18426.7
	% Fixture	78.6	0.0	78.6
Total	Lumens	23453.0	0.0	23453.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.3	1.1
10°-20°	779.1	3.3
20°-30°	1157.6	4.9
30°-40°	1662.2	7.1
40°-50°	2947.1	12.6
50°-60°	5042.9	21.5
60°-70°	7159.2	30.5
70°-80°	3921.0	16.7
80°-90°	517.6	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°	23453.0	100.0
0°-180°	23453.0	100.0

Coefficient of Utilization



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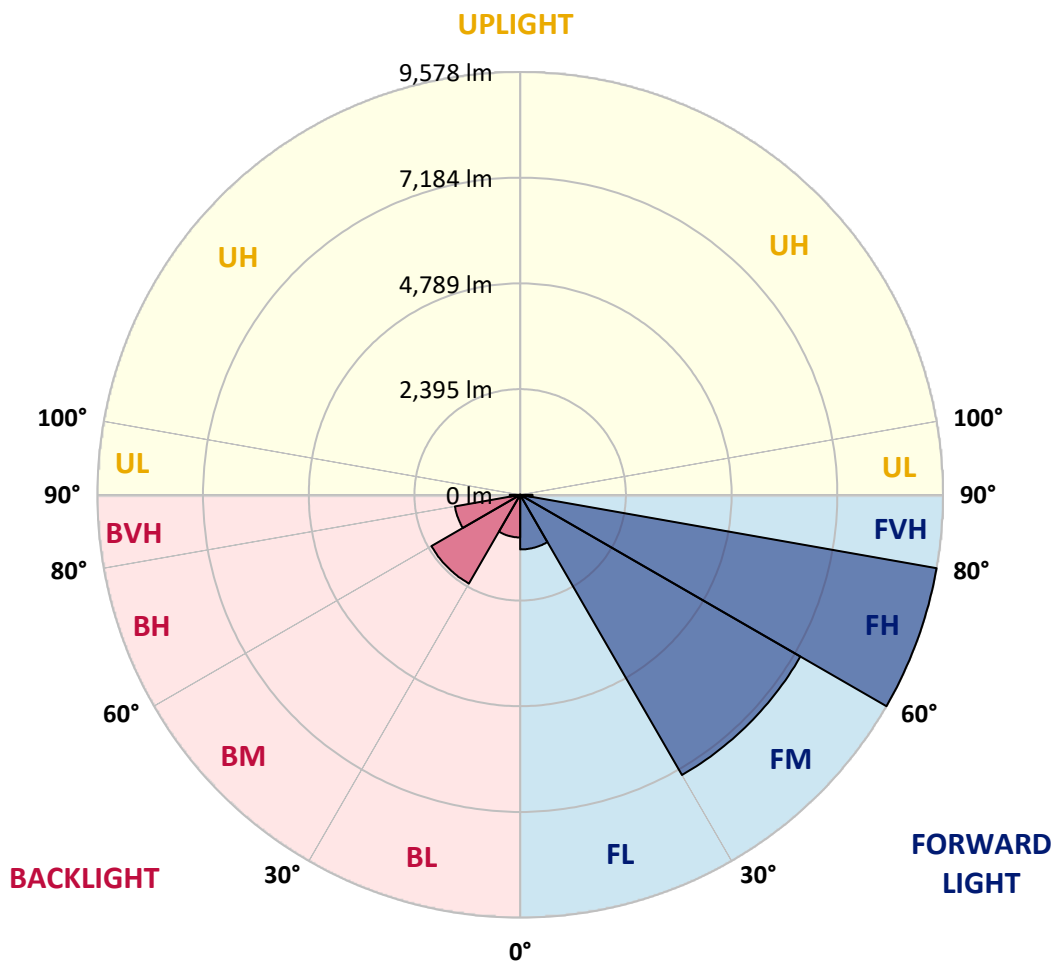
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1237.7	5.3			
FM	(30°-60°)	7329.8	31.3			
FH	(60°-80°)	9578.4	40.8			G4/12000
FVH	(80°-90°)	280.7	1.2			G3/500
BL	(0°-30°)	965.2	4.1	B2/1000		
BM	(30°-60°)	2322.4	9.9	B2/2500		
BH	(60°-80°)	1501.8	6.4	B3/2500		G3/2500
BVH	(80°-90°)	236.9	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°	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0
2.5°	2959.2	2953.1	2956.1	2945.5	2919.7	2892.3	2892.3	2863.4	2833.0	2802.6	2769.2
5°	3143.1	3134.0	3126.4	3092.9	3042.8	2986.5	2977.4	2919.7	2857.3	2795.0	2734.2
7.5°	3296.6	3287.5	3264.7	3203.9	3130.9	3047.3	3036.7	2960.7	2878.6	2792.0	2706.9
10°	3406.0	3399.9	3355.9	3278.4	3193.2	3094.4	3076.2	2998.7	2901.4	2793.5	2685.6
12.5°	3466.8	3457.7	3404.5	3313.3	3213.0	3112.7	3094.4	3020.0	2909.0	2790.5	2664.3
15°	3442.5	3437.9	3387.8	3295.1	3194.8	3108.1	3092.9	3016.9	2904.5	2779.8	2644.6
17.5°	3339.1	3349.8	3310.3	3219.1	3137.0	3076.2	3059.5	2988.1	2881.7	2754.0	2614.2
20°	3196.3	3208.4	3188.7	3096.0	3048.9	3009.3	3000.2	2942.5	2843.7	2716.0	2577.7
22.5°	3044.3	3054.9	3056.5	2969.8	2954.6	2939.4	2931.8	2890.8	2810.2	2693.2	2553.4
25°	2939.4	2951.6	2954.6	2878.6	2887.7	2892.3	2890.8	2861.9	2804.2	2693.2	2556.4
27.5°	2912.1	2918.1	2915.1	2845.2	2861.9	2887.7	2889.3	2883.2	2828.5	2723.6	2599.0
30°	3006.3	3009.3	2971.3	2866.5	2883.2	2916.6	2918.1	2915.1	2880.1	2802.6	2694.7
32.5°	3413.6	3410.6	3279.9	3009.3	2951.6	2963.7	2968.3	2995.7	2998.7	2933.3	2833.0
35°	4033.7	4032.2	3880.2	3418.2	3146.1	3082.3	3088.4	3130.9	3168.9	3124.8	3067.1
37.5°	4716.1	4720.7	4628.0	4001.8	3565.6	3299.6	3293.6	3325.5	3393.9	3409.1	3416.7
40°	5473.0	5495.8	5491.3	4672.1	4153.8	3670.5	3609.7	3573.2	3705.4	3789.0	3896.9
42.5°	6337.8	6331.8	6334.8	5407.7	4825.6	4254.1	4141.6	3971.4	4124.9	4269.3	4506.4
45°	7081.1	7105.4	7123.6	6190.4	5577.9	4921.3	4807.3	4497.3	4635.6	4851.4	5213.1
47.5°	7828.8	7786.3	7819.7	7061.3	6415.4	5682.8	5535.4	5117.4	5246.6	5550.6	6100.7
50°	8699.7	8680.0	8528.0	8198.2	7427.6	6454.9	6261.8	5764.9	5953.3	6359.1	7196.6
52.5°	9480.9	9374.5	9256.0	9091.8	8423.1	7236.1	6991.4	6438.2	6784.7	7287.8	8556.8
55°	9766.7	9695.2	9838.1	10050.9	9476.4	8032.5	7758.9	7223.9	7722.4	8350.1	10157.3
57.5°	10070.6	10095.0	10417.2	10847.3	10473.4	8882.1	8585.7	8154.1	8751.4	9538.7	11946.1
60°	10222.6	10319.9	10962.8	11769.8	11421.8	9813.8	9529.6	9222.5	9892.8	10851.8	13730.5
62.5°	10248.5	10379.2	11289.6	12093.6	12727.4	11240.9	10912.6	10579.8	11318.4	12303.3	15022.4
65°	9774.3	9974.9	11260.7	12491.8	13917.4	13625.6	13417.4	12836.8	13227.4	13581.5	15242.7
67.5°	8380.5	8599.4	10146.6	12327.6	14871.9	16099.9	16060.4	15203.2	14701.7	14075.5	13608.9
70°	6150.9	6327.2	7813.6	10538.8	14455.4	18042.3	18112.2	16736.8	15113.5	13026.8	10119.3
71°	4974.5	5126.5	6527.8	9356.3	13643.8	18142.6	18288.6	16805.2	14684.9	12079.9	8471.7
72.5°	3096.0	3181.1	4334.7	7061.3	11748.6	17109.1	17355.4	15929.7	13335.3	10210.5	5988.3
75°	1168.8	1202.2	1608.0	3114.2	7012.7	12853.5	13151.4	12038.9	9368.5	5828.7	2506.3
77.5°	627.7	644.4	797.9	1294.9	2810.2	7368.3	7751.3	6866.8	4494.2	2039.7	1024.4
80°	421.0	431.6	551.7	767.5	1291.9	2805.7	3124.8	2757.0	1682.5	1164.2	729.5
82.5°	272.1	278.1	375.4	504.6	834.4	986.4	1126.2	1176.4	1050.2	834.4	440.8
85°	179.3	183.9	247.7	322.2	516.8	486.4	498.5	652.0	715.9	550.2	224.9
87.5°	103.4	106.4	148.9	165.7	232.5	182.4	197.6	310.1	425.6	358.7	129.2
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°	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0	2789.0
2.5°	2754.0	2741.8	2714.5	2697.8	2690.2	2687.1	2684.1	2690.2	2690.2	2687.1	2681.0
5°	2703.8	2681.0	2635.4	2603.5	2586.8	2582.3	2588.3	2595.9	2600.5	2600.5	2595.9
7.5°	2667.4	2633.9	2573.1	2529.1	2503.2	2495.6	2512.3	2539.7	2557.9	2567.1	2568.6
10°	2637.0	2591.4	2524.5	2478.9	2457.6	2454.6	2475.9	2510.8	2548.8	2565.5	2568.6
12.5°	2609.6	2557.9	2485.0	2442.4	2427.2	2434.8	2463.7	2495.6	2539.7	2564.0	2565.5
15°	2583.8	2530.6	2453.1	2409.0	2405.9	2418.1	2445.5	2471.3	2504.7	2535.1	2535.1
17.5°	2553.4	2495.6	2415.1	2374.0	2374.0	2384.7	2402.9	2416.6	2437.9	2466.7	2465.2
20°	2516.9	2457.6	2375.6	2333.0	2323.9	2317.8	2317.8	2320.8	2339.1	2364.9	2369.5
22.5°	2489.5	2428.7	2342.1	2290.4	2249.4	2209.9	2193.2	2187.1	2203.8	2228.1	2234.2
25°	2489.5	2428.7	2331.5	2244.8	2144.5	2068.5	2036.6	2027.5	2044.2	2067.0	2076.1
27.5°	2530.6	2469.8	2355.8	2203.8	2019.9	1898.3	1860.3	1852.7	1867.9	1886.2	1895.3
30°	2626.3	2567.1	2425.7	2156.7	1881.6	1722.0	1679.5	1671.9	1679.5	1687.1	1697.7
32.5°	2785.9	2735.8	2539.7	2114.1	1741.8	1562.4	1510.7	1498.6	1501.6	1503.1	1512.3
35°	3045.8	3023.0	2691.7	2064.0	1609.5	1431.7	1378.5	1354.2	1352.7	1360.3	1370.9
37.5°	3444.0	3457.7	2887.7	1991.0	1500.1	1339.0	1285.8	1261.5	1249.3	1264.5	1276.7
40°	4006.4	4038.3	3114.2	1892.2	1410.4	1284.3	1228.1	1205.3	1188.5	1184.0	1190.1
42.5°	4737.4	4728.3	3345.2	1766.1	1313.2	1247.8	1188.5	1164.2	1136.9	1101.9	1094.3
45°	5603.7	5473.0	3538.2	1611.1	1202.2	1212.9	1152.1	1118.6	1076.1	1024.4	1018.3
47.5°	6626.6	6266.4	3656.8	1445.4	1098.9	1167.3	1111.0	1059.3	997.0	963.6	959.0
50°	7859.2	7195.0	3740.4	1276.7	1006.2	1109.5	1053.3	984.9	924.1	915.0	913.4
52.5°	9318.3	8290.9	3843.7	1124.7	933.2	1035.0	995.5	925.6	877.0	881.5	881.5
55°	10870.1	9424.7	3846.8	1004.6	869.4	948.4	953.0	896.7	858.7	873.9	878.5
57.5°	12285.1	10415.6	3544.3	919.5	808.6	880.0	939.3	907.4	878.5	931.7	936.2
60°	13519.2	11178.6	2893.8	849.6	758.4	854.2	969.7	972.7	966.6	1111.0	1121.7
62.5°	13970.6	11186.2	2054.9	790.3	731.1	869.4	1033.5	1038.1	1038.1	1171.8	1191.6
65°	13338.3	10254.5	1367.9	755.4	712.8	902.8	1085.2	1065.4	1018.3	1111.0	1089.7
67.5°	11110.2	7982.3	1000.1	732.6	687.0	904.3	1130.8	1080.6	1000.1	1079.1	1042.6
70°	7635.8	5079.4	837.4	711.3	656.6	864.8	1155.1	1076.1	972.7	1006.2	957.5
71°	6146.3	4053.5	794.9	703.7	644.4	842.0	1158.1	1070.0	959.0	980.3	936.2
72.5°	4048.9	2497.1	743.2	687.0	626.2	802.5	1150.5	1056.3	940.8	942.3	913.4
75°	1597.4	1035.0	668.7	649.0	574.5	738.7	1117.1	1027.4	905.8	875.4	863.3
77.5°	807.0	676.3	588.2	595.8	513.7	673.3	1070.0	980.3	857.2	816.2	807.0
80°	589.7	513.7	503.1	516.8	445.3	609.5	1010.7	916.5	794.9	837.4	819.2
82.5°	358.7	313.1	393.6	427.1	372.4	544.1	940.8	842.0	715.9	659.6	638.3
85°	170.2	183.9	284.2	314.6	275.1	434.7	860.2	759.9	624.7	539.6	548.7
87.5°	83.6	101.8	162.6	188.5	180.9	319.2	649.0	589.7	492.4	405.8	396.7
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)