

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: P270637

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270637
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-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 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: 25816.9 lumens
Efficiency: N/A
Efficacy: 92.5 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

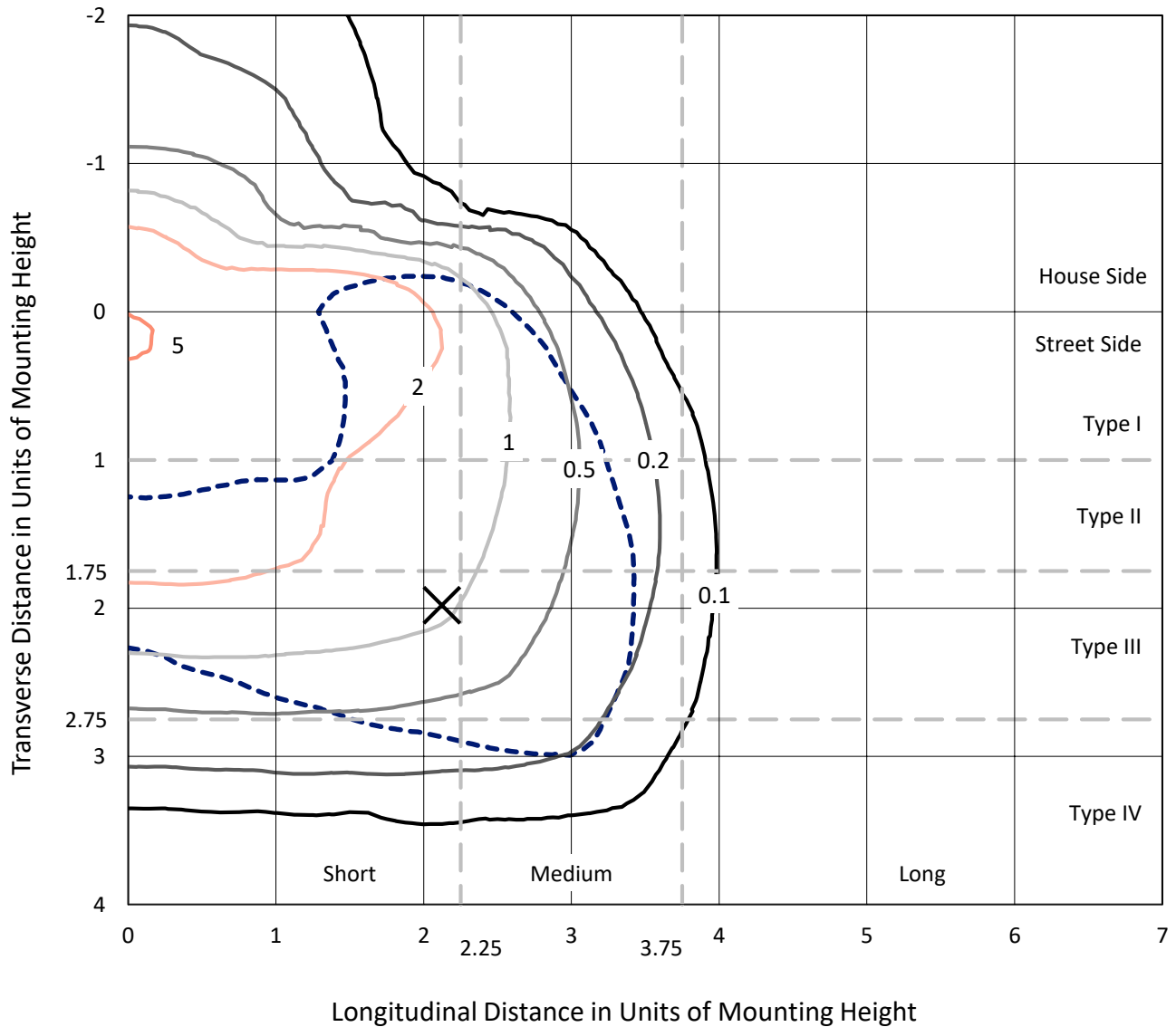
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

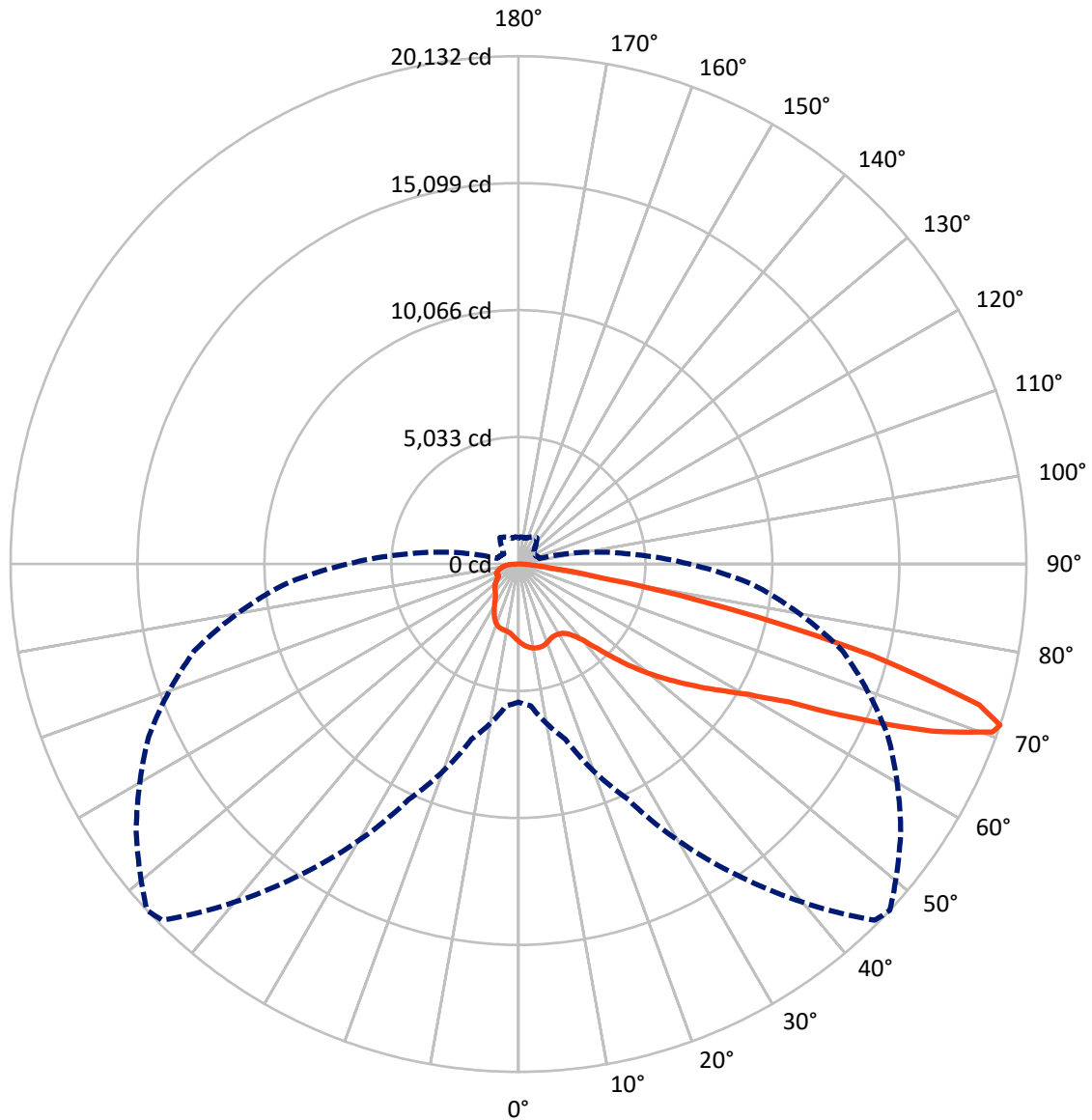
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.6 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	5532.9	0.0	5532.9
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	20284.0	0.0	20284.0
	% Fixture	78.6	0.0	78.6
Total	Lumens	25816.9	0.0	25816.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	293.1	1.1
10°-20°	857.6	3.3
20°-30°	1274.3	4.9
30°-40°	1829.7	7.1
40°-50°	3244.2	12.6
50°-60°	5551.2	21.5
60°-70°	7880.8	30.5
70°-80°	4316.2	16.7
80°-90°	569.8	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°	25816.9	100.0
0°-180°	25816.9	100.0



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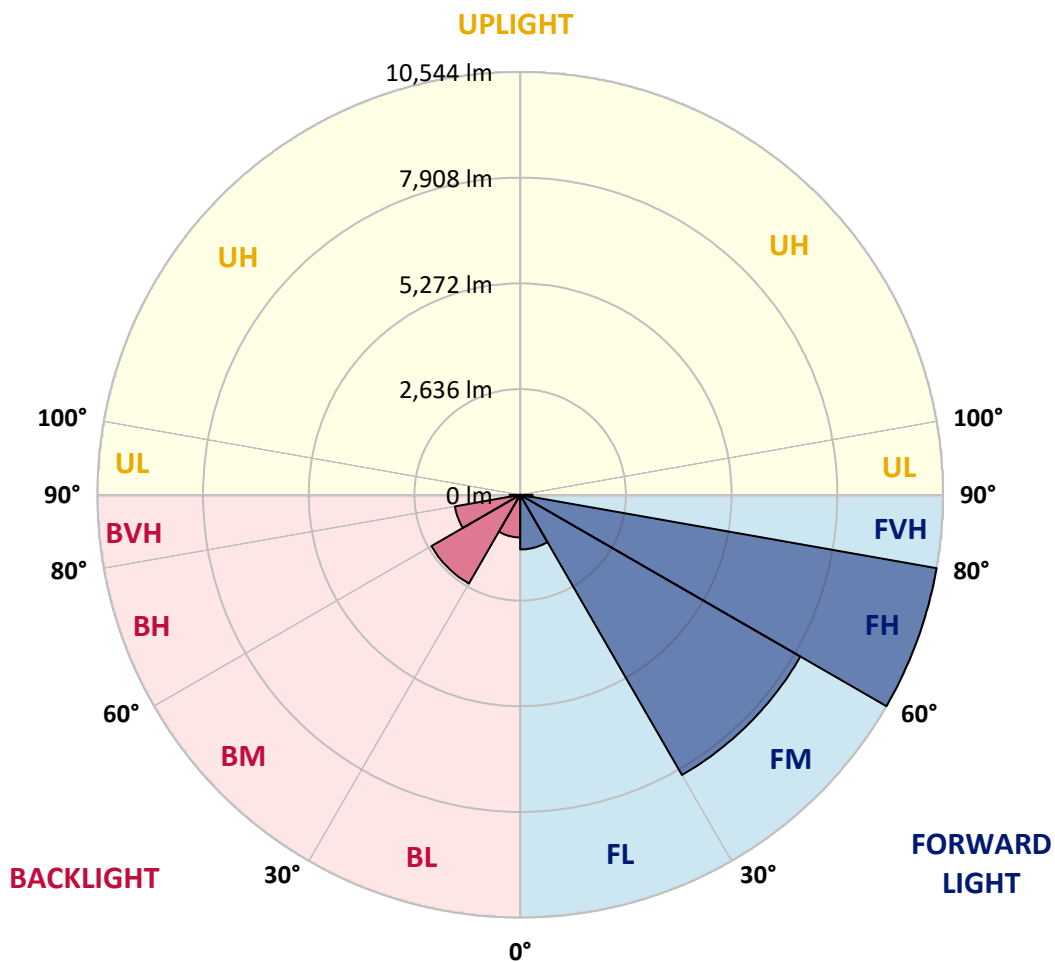
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1362.5	5.3			
FM	(30°-60°)	8068.6	31.3			
FH	(60°-80°)	10543.9	40.8			G4/12000
FVH	(80°-90°)	309.0	1.2			G3/500
BL	(0°-30°)	1062.5	4.1	B3/2500		
BM	(30°-60°)	2556.5	9.9	B3/5000		
BH	(60°-80°)	1653.2	6.4	B3/2500		G3/2500
BVH	(80°-90°)	260.7	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°	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0
2.5°	3257.4	3250.7	3254.1	3242.4	3214.0	3183.9	3183.9	3152.1	3118.6	3085.0	3048.3
5°	3459.9	3449.9	3441.4	3404.7	3349.5	3287.5	3277.6	3214.0	3145.3	3076.8	3009.9
7.5°	3628.9	3618.8	3593.7	3526.7	3446.4	3354.5	3342.8	3259.1	3168.9	3073.5	2979.7
10°	3749.3	3742.6	3694.1	3608.9	3515.1	3406.4	3386.3	3300.9	3193.8	3075.1	2956.3
12.5°	3816.2	3806.2	3747.6	3647.3	3536.8	3426.4	3406.4	3324.4	3202.3	3071.8	2932.8
15°	3789.5	3784.5	3729.3	3627.1	3516.8	3421.5	3404.7	3321.0	3197.2	3060.0	2911.0
17.5°	3675.8	3687.5	3644.0	3543.5	3453.2	3386.3	3367.8	3289.2	3172.2	3031.6	2877.7
20°	3518.4	3531.9	3510.0	3408.0	3356.2	3312.7	3302.6	3239.1	3130.4	2989.7	2837.4
22.5°	3351.1	3362.9	3364.5	3269.1	3252.5	3235.7	3227.3	3182.2	3093.6	2964.6	2810.7
25°	3235.7	3249.1	3252.5	3168.9	3178.8	3183.9	3182.2	3150.4	3086.8	2964.6	2814.1
27.5°	3205.6	3212.2	3208.9	3132.0	3150.4	3178.8	3180.4	3173.8	3113.5	2998.2	2860.9
30°	3309.3	3312.7	3270.8	3155.3	3173.8	3210.6	3212.2	3208.9	3170.5	3085.0	2966.4
32.5°	3757.7	3754.3	3610.5	3312.7	3249.1	3262.5	3267.4	3297.6	3300.9	3229.0	3118.6
35°	4440.3	4438.6	4271.4	3762.7	3463.2	3393.0	3399.6	3446.4	3488.3	3439.8	3376.2
37.5°	5191.6	5196.5	5094.5	4405.2	3925.0	3632.1	3625.5	3660.7	3736.0	3752.7	3761.1
40°	6024.8	6049.7	6044.8	5142.9	4572.5	4040.4	3973.6	3933.4	4078.9	4170.9	4289.8
42.5°	6976.6	6969.9	6973.4	5952.8	5311.9	4682.9	4559.1	4371.7	4540.8	4699.7	4960.6
45°	7794.8	7821.5	7841.7	6814.4	6140.2	5417.4	5291.8	4950.6	5102.8	5340.5	5738.6
47.5°	8617.9	8571.1	8607.9	7773.0	7061.9	6255.5	6093.3	5633.2	5775.5	6110.0	6715.6
50°	9576.7	9554.8	9387.5	9024.5	8176.3	7105.5	6893.1	6345.8	6553.3	7000.0	7922.0
52.5°	10436.5	10319.4	10188.9	10008.2	9272.0	7965.5	7696.0	7087.1	7468.5	8022.4	9419.3
55°	10751.0	10672.5	10829.6	11064.0	10431.5	8842.0	8540.9	7952.1	8500.8	9191.7	11181.1
57.5°	11085.7	11112.5	11467.1	11940.6	11529.0	9777.3	9451.1	8976.0	9633.5	10500.1	13150.2
60°	11253.0	11360.1	12067.8	12956.2	12573.0	10802.9	10490.0	10152.1	10890.0	11945.7	15114.4
62.5°	11281.5	11425.4	12427.5	13312.5	14010.1	12374.0	12012.6	11646.2	12459.2	13543.3	16536.4
65°	10759.4	10980.3	12395.7	13750.9	15320.1	14999.0	14769.8	14130.7	14560.5	14950.4	16779.1
67.5°	9225.2	9466.2	11169.3	13570.2	16370.9	17722.8	17679.3	16735.7	16183.4	15494.1	14980.6
70°	6770.9	6965.0	8601.2	11601.0	15912.4	19860.8	19937.8	18423.7	16636.9	14339.7	11139.3
71°	5475.9	5643.2	7185.8	10299.3	15019.0	19971.3	20131.8	18498.9	16165.1	13297.5	9325.7
72.5°	3408.0	3501.8	4771.5	7773.0	12932.7	18833.7	19104.7	17535.4	14679.5	11239.7	6591.9
75°	1286.6	1323.5	1770.1	3428.1	7719.5	14149.1	14476.9	13252.2	10312.7	6416.1	2758.9
77.5°	690.9	709.4	878.4	1425.4	3093.6	8110.9	8532.6	7558.9	4947.2	2245.3	1127.6
80°	463.4	475.2	607.3	844.9	1422.0	3088.5	3439.8	3035.0	1852.0	1281.5	803.1
82.5°	299.4	306.1	413.2	555.4	918.4	1085.8	1239.8	1294.9	1156.1	918.4	485.2
85°	197.4	202.5	272.7	354.7	568.8	535.4	548.8	717.7	788.1	605.6	247.7
87.5°	113.7	117.0	164.0	182.4	255.9	200.9	217.5	341.3	468.5	394.9	142.2
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°	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0	3070.0
2.5°	3031.6	3018.1	2988.1	2969.6	2961.4	2957.9	2954.6	2961.4	2961.4	2957.9	2951.3
5°	2976.4	2951.3	2901.0	2866.0	2847.5	2842.5	2849.2	2857.6	2862.5	2862.5	2857.6
7.5°	2936.2	2899.4	2832.4	2783.9	2755.6	2747.1	2765.5	2795.6	2815.7	2825.8	2827.4
10°	2902.8	2852.6	2778.9	2728.7	2705.3	2702.0	2725.4	2763.8	2805.8	2824.1	2827.4
12.5°	2872.6	2815.7	2735.5	2688.5	2671.9	2680.3	2712.1	2747.1	2795.6	2822.5	2824.1
15°	2844.3	2785.6	2700.3	2651.7	2648.5	2661.9	2692.0	2720.3	2757.2	2790.7	2790.7
17.5°	2810.7	2747.1	2658.4	2613.3	2613.3	2625.0	2645.1	2660.2	2683.5	2715.3	2713.7
20°	2770.6	2705.3	2615.0	2568.2	2558.2	2551.5	2551.5	2554.8	2574.8	2603.3	2608.3
22.5°	2740.5	2673.5	2578.1	2521.4	2476.1	2432.6	2414.3	2407.5	2426.0	2452.7	2459.4
25°	2740.5	2673.5	2566.5	2471.1	2360.7	2277.1	2241.9	2231.8	2250.3	2275.3	2285.4
27.5°	2785.6	2718.7	2593.2	2426.0	2223.5	2089.6	2047.9	2039.4	2056.2	2076.3	2086.4
30°	2891.0	2825.8	2670.2	2374.1	2071.2	1895.6	1848.7	1840.4	1848.7	1857.1	1868.8
32.5°	3066.8	3011.5	2795.6	2327.1	1917.3	1720.0	1663.0	1649.6	1653.1	1654.7	1664.6
35°	3352.8	3327.7	2963.0	2272.1	1771.7	1576.0	1517.4	1490.6	1489.0	1497.4	1509.2
37.5°	3791.1	3806.2	3178.8	2191.8	1651.4	1473.9	1415.4	1388.6	1375.2	1392.0	1405.4
40°	4410.1	4445.4	3428.1	2083.0	1552.6	1413.8	1351.8	1326.7	1308.3	1303.4	1310.0
42.5°	5214.9	5204.9	3682.4	1944.1	1445.6	1373.6	1308.3	1281.5	1251.5	1213.0	1204.5
45°	6168.7	6024.8	3895.0	1773.4	1323.5	1335.2	1268.1	1231.3	1184.5	1127.6	1120.9
47.5°	7294.5	6898.1	4025.3	1591.1	1209.6	1284.9	1223.0	1166.1	1097.5	1060.7	1055.7
50°	8651.3	7920.3	4117.4	1405.4	1107.6	1221.3	1159.4	1084.2	1017.2	1007.2	1005.6
52.5°	10257.6	9126.5	4231.1	1238.0	1027.2	1139.3	1095.8	1018.9	965.4	970.3	970.3
55°	11965.8	10374.6	4234.5	1106.0	957.0	1044.0	1049.0	987.1	945.2	962.1	967.0
57.5°	13523.4	11465.4	3901.6	1012.2	890.1	968.7	1033.9	998.8	967.0	1025.5	1030.5
60°	14881.9	12305.3	3185.5	935.2	834.9	940.3	1067.5	1070.8	1064.0	1223.0	1234.7
62.5°	15378.8	12313.6	2262.0	870.0	804.7	957.0	1137.7	1142.7	1142.7	1290.0	1311.6
65°	14682.7	11288.1	1505.7	831.6	784.7	993.7	1194.6	1172.7	1120.9	1223.0	1199.5
67.5°	12230.1	8787.0	1100.9	806.4	756.3	995.5	1244.7	1189.5	1100.9	1187.9	1147.8
70°	8405.4	5591.4	921.8	783.1	722.7	951.9	1271.6	1184.5	1070.8	1107.6	1054.0
71°	6765.9	4462.1	874.9	774.6	709.4	927.0	1274.9	1177.9	1055.7	1079.1	1030.5
72.5°	4457.0	2748.9	818.1	756.3	689.3	883.4	1266.5	1162.8	1035.7	1037.4	1005.6
75°	1758.4	1139.3	736.2	714.4	632.3	813.1	1229.7	1131.0	997.2	963.7	950.2
77.5°	888.5	744.5	647.5	655.9	565.6	741.1	1177.9	1079.1	943.6	898.5	888.5
80°	649.1	565.6	553.7	568.8	490.3	670.9	1112.6	1008.8	874.9	921.8	901.8
82.5°	394.9	344.7	433.3	470.2	409.8	599.0	1035.7	927.0	788.1	726.1	702.7
85°	187.3	202.5	312.9	346.3	302.8	478.4	947.0	836.5	687.7	593.9	604.0
87.5°	92.0	112.1	179.0	207.5	199.2	351.3	714.4	649.1	542.0	446.6	436.7
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)