

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: P270545

Luminaire Tested: **NAV-AF-04-D-UNV-T3-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270545
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-T3-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21201.9 lumens
Efficiency: N/A
Efficacy: 94.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

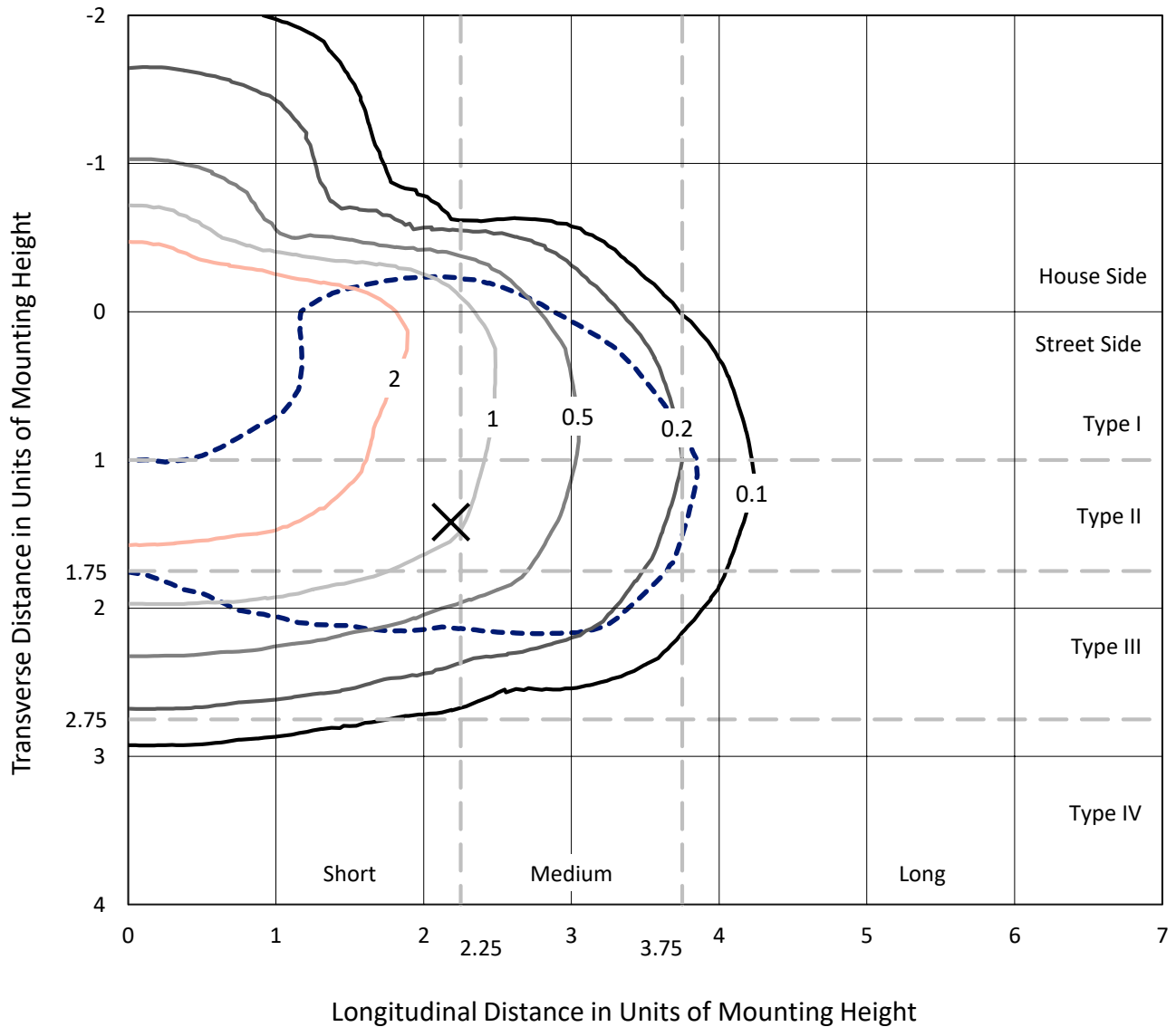
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

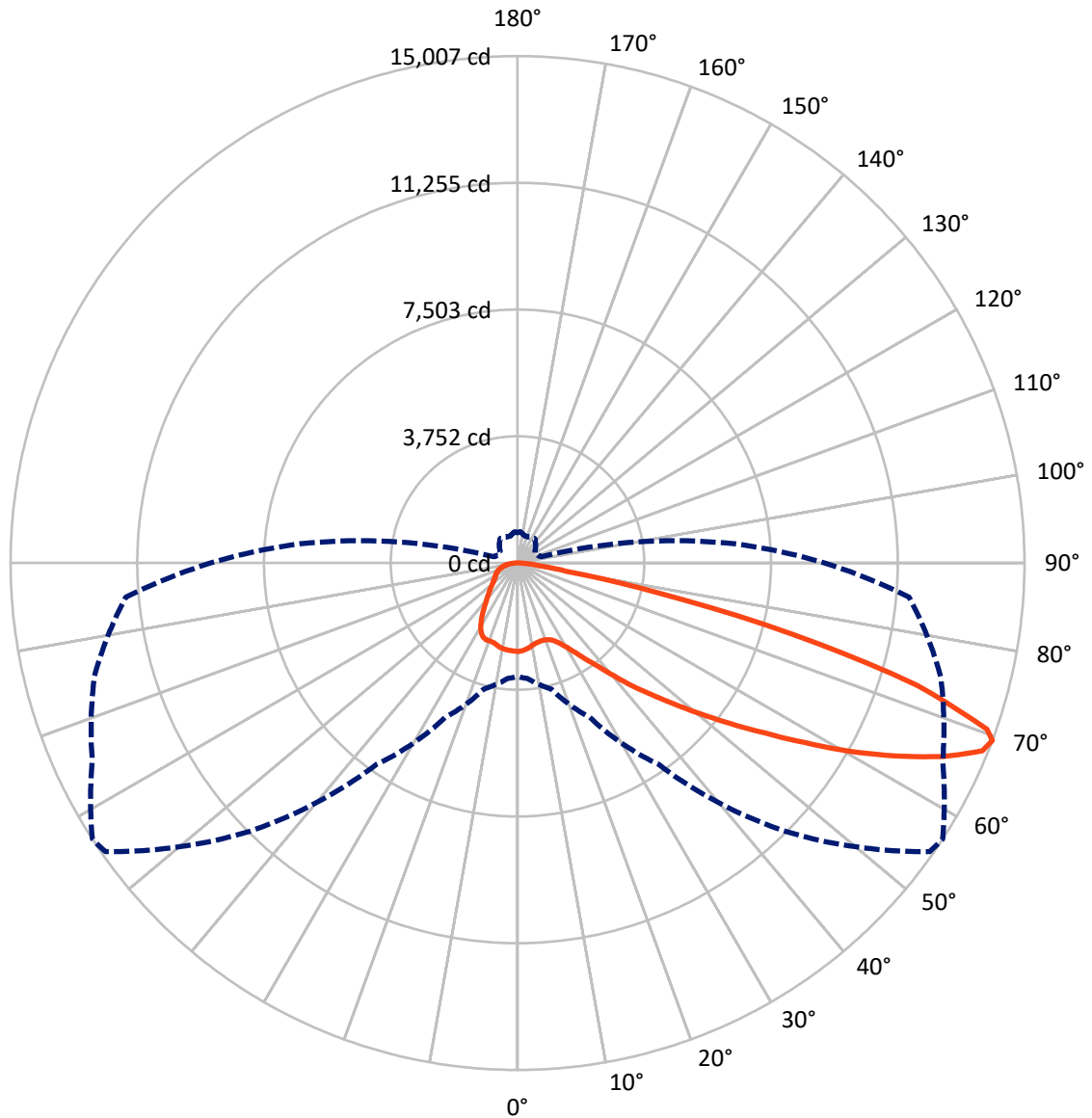
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4678.5	0.0	4678.5
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	16523.4	0.0	16523.4
	% Fixture	77.9	0.0	77.9
Total	Lumens	21201.9	0.0	21201.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.3	1.2
10°-20°	697.3	3.3
20°-30°	1160.0	5.5
30°-40°	1894.2	8.9
40°-50°	3197.0	15.1
50°-60°	4973.1	23.5
60°-70°	5924.1	27.9
70°-80°	2759.8	13.0
80°-90°	351.0	1.7
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°	21201.9	100.0
0°-180°	21201.9	100.0



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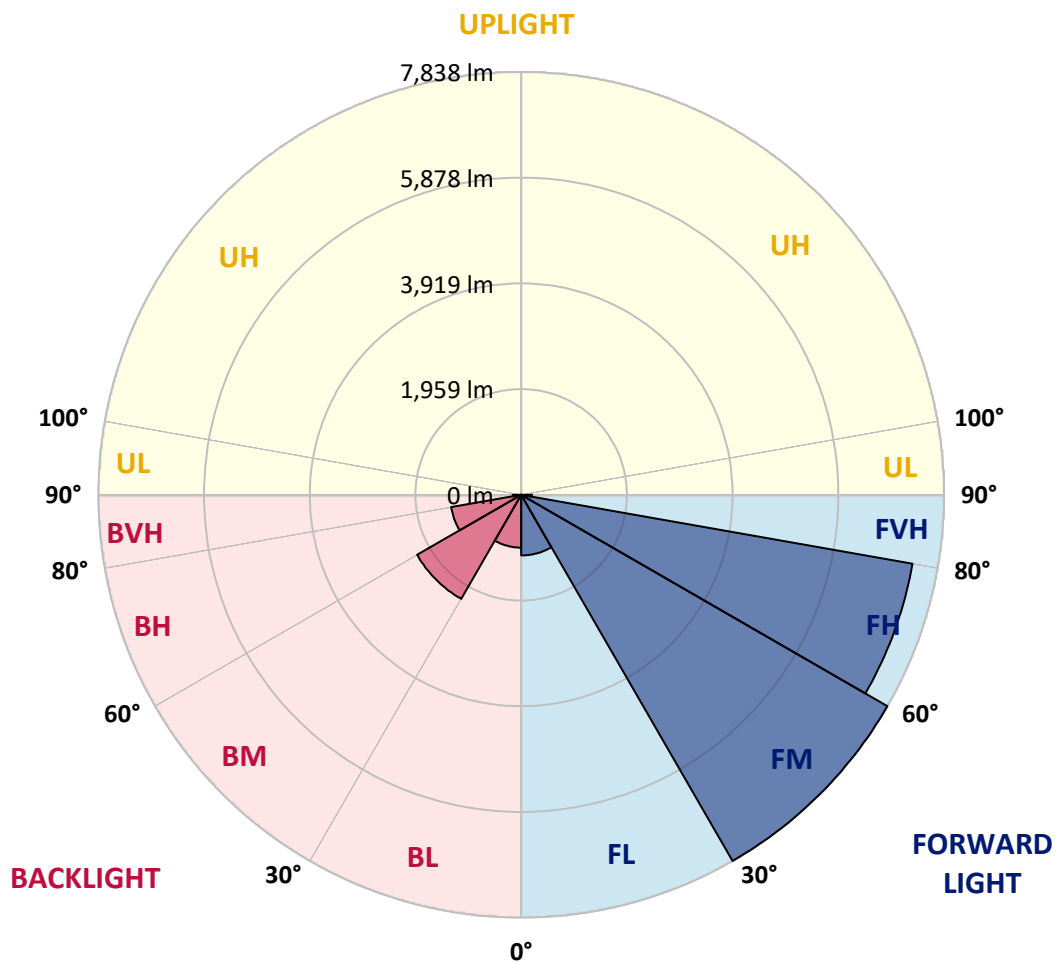
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1122.8	5.3			
FM	(30°-60°)	7837.7	37.0			
FH	(60°-80°)	7365.6	34.7			G3/7500
FVH	(80°-90°)	197.3	0.9			G2/225
BL	(0°-30°)	979.8	4.6	B2/1000		
BM	(30°-60°)	2226.7	10.5	B2/2500		
BH	(60°-80°)	1318.3	6.2	B3/2500		G3/2500
BVH	(80°-90°)	153.7	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6
2.5°	2604.7	2604.7	2611.6	2611.6	2611.6	2608.9	2600.8	2603.4	2598.0	2593.9	2587.1
5°	2551.8	2554.6	2562.8	2565.4	2569.5	2570.9	2570.9	2569.5	2570.9	2570.9	2566.7
7.5°	2478.6	2481.3	2490.8	2496.2	2508.3	2519.2	2524.6	2524.6	2531.5	2537.0	2538.3
10°	2433.8	2433.8	2439.2	2439.2	2448.7	2454.1	2471.7	2470.3	2489.5	2507.1	2515.2
12.5°	2428.3	2428.3	2425.7	2416.1	2410.7	2409.3	2427.0	2429.6	2458.2	2489.5	2504.4
15°	2445.9	2445.9	2437.8	2418.9	2398.5	2389.0	2406.6	2411.9	2443.3	2480.0	2502.9
17.5°	2502.9	2501.6	2484.0	2445.9	2410.7	2395.7	2401.2	2406.6	2435.1	2477.2	2505.7
20°	2629.2	2629.2	2591.3	2522.0	2460.8	2425.7	2417.5	2421.6	2442.0	2481.3	2517.9
22.5°	2850.4	2854.5	2786.6	2672.6	2568.2	2493.4	2460.8	2464.9	2474.6	2512.5	2553.3
25°	3176.2	3165.4	3069.0	2907.5	2744.6	2617.0	2550.5	2554.6	2554.6	2589.9	2631.9
27.5°	3520.9	3523.7	3385.3	3211.5	2997.0	2807.1	2701.2	2699.8	2698.5	2732.4	2777.2
30°	3910.5	3911.8	3751.7	3550.9	3305.1	3062.2	2903.4	2902.1	2889.8	2931.9	2990.3
32.5°	4336.7	4335.4	4149.5	3922.8	3650.0	3374.5	3168.1	3166.7	3157.3	3214.2	3284.8
35°	4809.2	4809.2	4624.6	4344.9	4050.4	3743.5	3504.6	3503.4	3508.8	3586.2	3652.7
37.5°	5377.9	5390.1	5167.5	4828.1	4506.4	4179.4	3901.1	3893.0	3852.2	3982.5	4092.5
40°	5971.0	6005.0	5774.2	5377.9	5030.4	4692.3	4385.6	4380.2	4344.9	4483.4	4661.1
42.5°	6613.1	6690.4	6433.9	6029.5	5650.7	5285.5	4977.5	4962.4	4826.9	5042.5	5320.9
45°	7454.7	7504.9	7132.9	6766.5	6409.4	5992.8	5626.3	5546.1	5410.4	5687.3	6048.4
47.5°	8027.4	8003.0	7770.9	7525.2	7295.9	6896.7	6333.5	6231.6	6066.1	6432.6	6830.3
50°	8383.1	8400.7	8270.4	8258.2	8246.0	7967.7	7131.6	7009.5	6818.0	7252.3	7716.6
52.5°	8617.9	8537.9	8560.8	8837.7	9173.0	9040.1	8034.3	7898.4	7701.7	8135.9	8660.0
55°	8520.2	8414.2	8627.4	9173.0	9961.7	9991.6	9025.1	8885.2	8717.1	9075.3	9794.7
57.5°	8115.6	8168.6	8505.2	9264.0	10500.6	10844.0	10164.0	10021.4	9690.1	10054.0	10872.5
60°	7546.9	7654.2	8168.6	9120.1	10877.8	11507.6	11414.0	11319.1	10748.9	11006.8	12004.5
62.5°	6936.2	7042.1	7674.5	8874.4	10708.2	12095.5	12641.0	12582.7	11917.6	11924.5	12722.5
65°	6033.5	6076.9	6723.1	8204.0	10237.3	12626.1	13869.6	13818.0	13034.8	12707.7	12923.5
67.5°	4556.7	4611.0	5141.7	6476.1	8803.8	12338.4	14850.9	14842.8	13706.7	12998.0	12445.7
69°	3365.0	3431.4	3864.4	5027.6	7279.5	11241.7	14897.0	15006.9	13888.5	12968.2	11638.0
70°	2462.3	2538.3	2938.6	3990.6	6063.3	10031.0	14502.1	14738.2	13819.3	12779.6	11008.2
72.5°	1046.5	1072.2	1269.1	1801.2	3075.7	6048.4	11878.3	12375.1	12481.0	11450.8	8600.3
75°	655.7	663.8	741.1	924.4	1368.2	2501.6	7692.1	8369.5	9318.3	8884.0	5758.0
77.5°	494.1	500.9	545.7	636.5	849.6	933.9	3568.4	4255.4	5337.1	5225.8	2865.5
80°	378.6	382.8	412.6	462.8	598.6	585.1	1157.8	1455.1	2227.4	1965.4	1013.9
82.5°	297.2	298.6	324.4	333.9	418.2	393.6	580.9	647.5	899.9	747.8	495.4
85°	263.4	267.3	293.1	244.2	267.3	237.5	319.0	346.1	477.8	450.6	187.3
87.5°	134.3	141.2	245.6	209.0	134.3	112.6	139.7	150.6	194.2	210.5	91.0
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°	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6	2619.6
2.5°	2588.5	2589.9	2593.9	2600.8	2611.6	2625.1	2641.5	2657.7	2667.2	2674.1	2671.3
5°	2566.7	2568.2	2576.2	2588.5	2602.1	2622.4	2649.6	2669.9	2684.9	2694.3	2692.9
7.5°	2539.6	2543.7	2560.0	2573.6	2592.6	2608.9	2630.5	2649.6	2664.6	2674.1	2672.6
10°	2519.2	2523.2	2543.7	2561.3	2577.6	2580.3	2576.2	2570.9	2569.5	2576.2	2573.6
12.5°	2509.8	2517.9	2537.0	2549.1	2542.4	2516.5	2486.7	2474.6	2470.3	2484.0	2485.3
15°	2512.5	2519.2	2535.6	2527.4	2490.8	2447.3	2431.1	2440.5	2448.7	2456.9	2458.2
17.5°	2519.2	2523.2	2527.4	2497.6	2445.9	2417.5	2411.9	2402.5	2378.2	2364.5	2363.3
20°	2531.5	2537.0	2530.2	2482.6	2436.5	2398.5	2333.3	2275.0	2219.4	2189.3	2177.2
22.5°	2573.6	2577.6	2557.3	2511.1	2440.5	2317.0	2185.3	2084.8	1999.4	1953.3	1935.6
25°	2656.4	2663.1	2634.6	2576.2	2391.6	2175.9	1989.8	1854.1	1746.9	1691.2	1676.3
27.5°	2801.6	2808.5	2777.2	2625.1	2277.7	1987.2	1761.8	1627.5	1535.2	1487.7	1480.9
30°	3018.8	3028.2	2999.8	2623.8	2103.9	1746.9	1539.2	1460.6	1407.6	1375.0	1373.7
32.5°	3320.1	3355.3	3238.7	2577.6	1889.4	1503.9	1371.0	1343.8	1318.1	1296.3	1296.3
35°	3703.0	3785.6	3474.9	2481.3	1653.3	1338.4	1277.3	1251.5	1218.9	1195.9	1193.0
37.5°	4160.3	4289.2	3643.2	2310.3	1449.7	1258.3	1220.3	1178.1	1126.7	1081.7	1071.0
40°	4788.8	4818.7	3726.0	2032.0	1297.6	1214.9	1167.3	1114.3	1049.2	999.0	993.5
42.5°	5420.0	5322.2	3709.7	1733.4	1210.7	1175.5	1113.0	1054.7	996.3	954.2	954.2
45°	6137.9	5762.0	3586.2	1433.3	1132.0	1130.6	1062.9	1007.2	962.4	931.2	924.4
47.5°	6824.9	6157.1	3373.0	1212.2	1050.6	1086.0	1030.3	985.4	944.7	914.8	909.4
50°	7658.2	6614.4	3146.4	1057.3	971.8	1046.5	1016.6	993.5	954.2	902.6	897.1
52.5°	8486.2	7149.3	2971.2	940.6	902.6	1015.4	1024.7	1027.5	990.9	890.4	883.7
55°	9375.3	7720.7	2786.6	849.6	845.7	1000.4	1043.8	1041.0	1023.4	893.2	882.2
57.5°	10220.9	8294.8	2511.1	785.8	800.8	985.4	1048.0	1004.5	973.3	906.7	889.1
60°	10921.4	8770.0	2106.6	741.1	762.8	955.5	1020.7	955.5	902.6	904.1	887.7
62.5°	11262.1	8902.9	1611.2	689.5	731.6	906.7	981.4	919.0	870.1	909.4	899.9
65°	11002.8	8524.2	1148.4	642.0	693.6	849.6	958.3	887.7	853.7	936.7	925.8
67.5°	10071.6	7492.7	833.4	600.0	657.0	791.3	914.8	859.1	837.5	957.0	932.5
69°	9082.1	6469.1	722.1	575.5	631.1	760.1	886.4	844.2	825.3	928.5	893.2
70°	8259.6	5680.5	666.5	560.6	609.5	742.4	864.7	834.7	813.1	894.5	852.4
72.5°	5922.2	3671.6	560.6	515.7	552.5	703.2	817.1	799.5	767.0	807.7	780.4
75°	3577.9	1916.7	476.5	469.6	492.7	648.8	761.5	739.8	707.1	711.3	697.7
77.5°	1643.8	885.0	399.0	415.3	430.3	580.9	693.6	669.1	639.4	628.5	629.8
80°	720.8	517.2	333.9	354.3	362.5	522.5	620.3	593.2	560.6	618.9	574.1
82.5°	389.5	299.9	260.6	274.3	297.2	454.7	538.9	503.6	472.4	549.8	443.9
85°	157.5	153.4	176.4	190.0	206.3	327.2	450.6	413.9	376.0	336.7	328.5
87.5°	67.8	73.3	86.9	92.3	110.0	203.6	302.6	264.7	266.1	228.0	223.9
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)