

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: P195923

Luminaire Tested: **NAV-AF-05-D-UNV-5MQ-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195923
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)
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-5MQ-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26466.8 lumens
Efficiency: N/A
Efficacy: 126.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B5 - U0 - G3

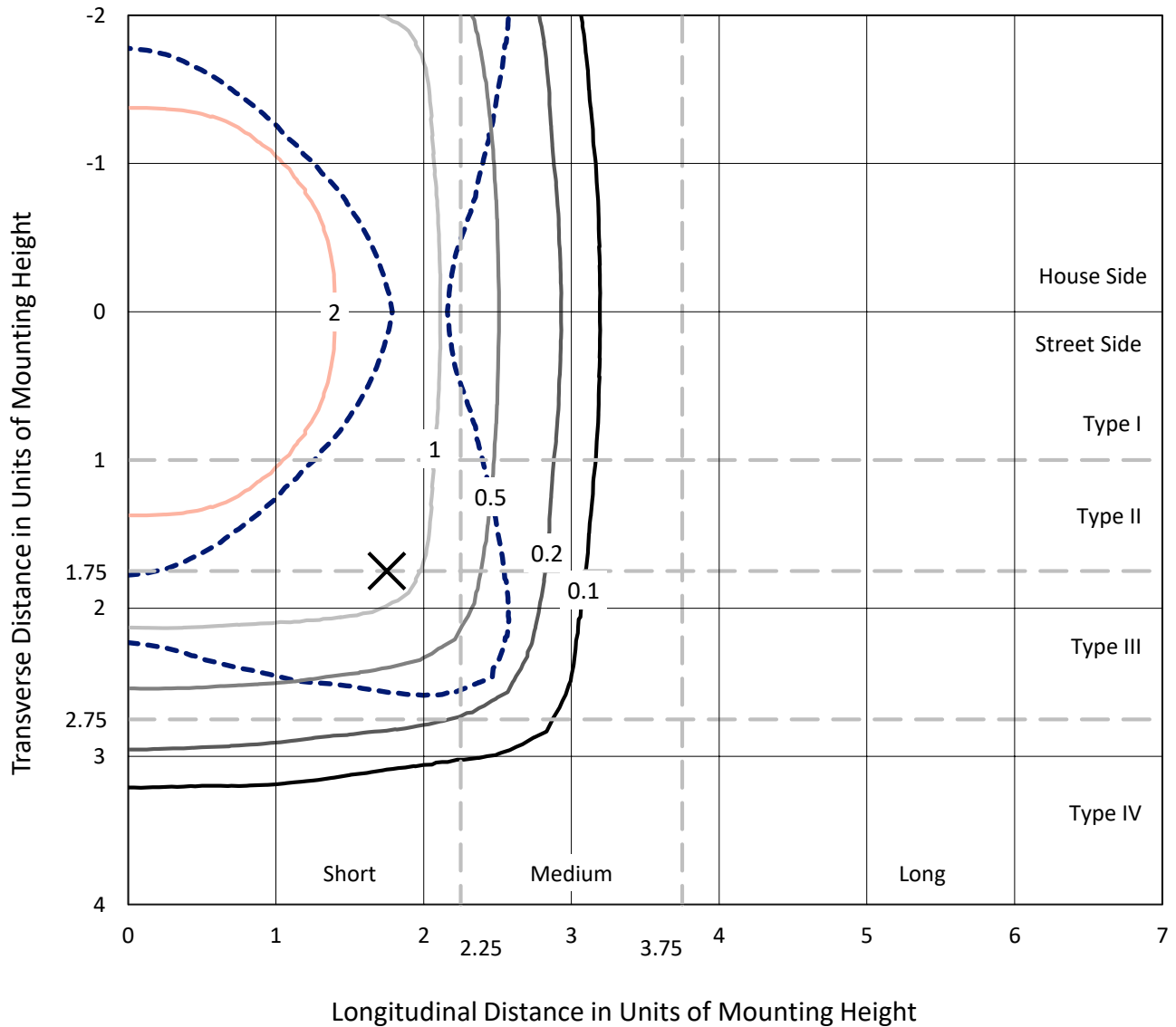
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

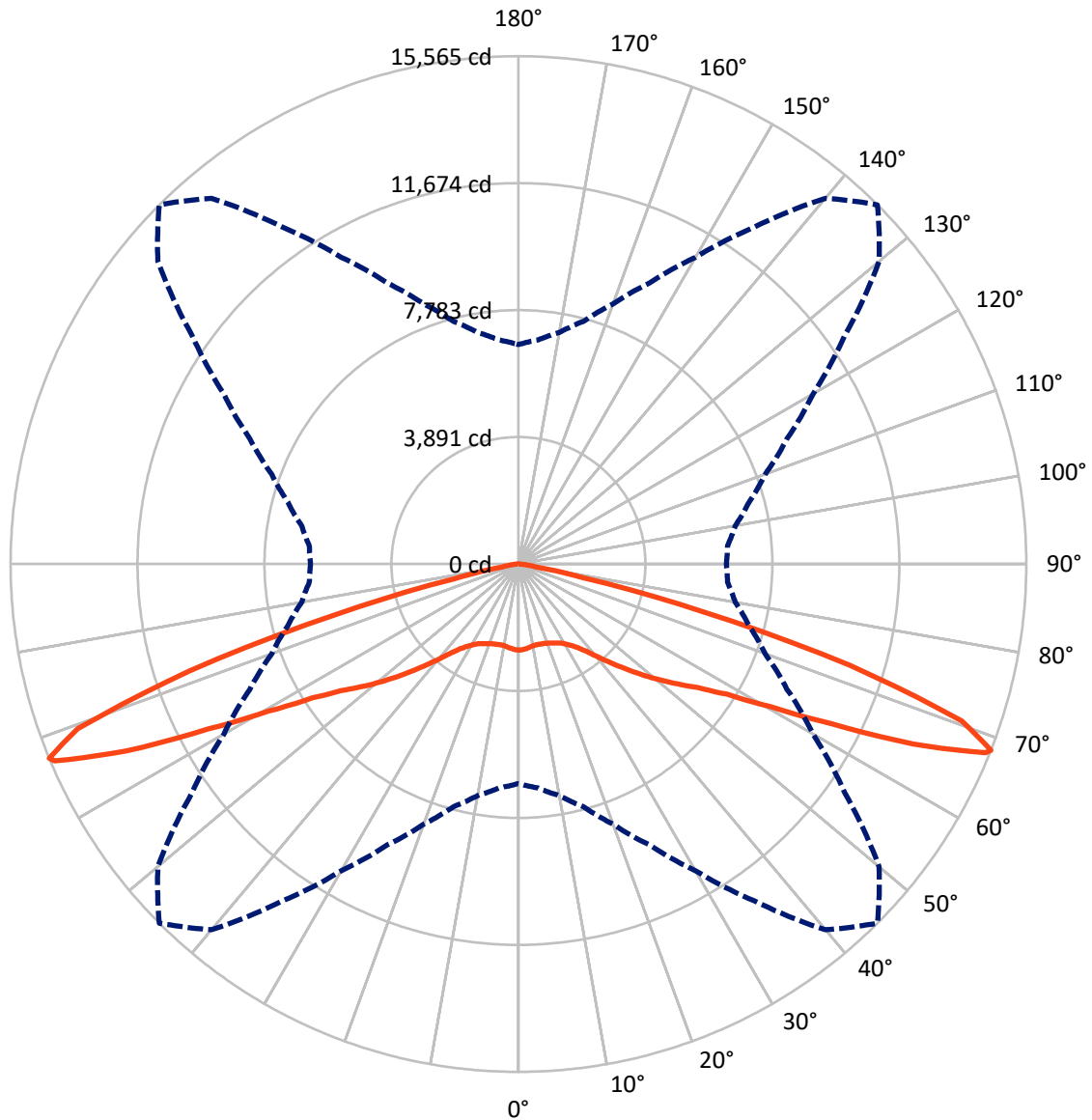
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.2 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	13233.4	0.0	13233.4
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	13233.4	0.0	13233.4
	% Fixture	50.0	0.0	50.0
Total	Lumens	26466.8	0.0	26466.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	247.0	0.9
10°-20°	716.5	2.7
20°-30°	1218.1	4.6
30°-40°	1993.4	7.5
40°-50°	3562.4	13.5
50°-60°	6016.4	22.7
60°-70°	9329.2	35.2
70°-80°	3207.6	12.1
80°-90°	176.3	0.7
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°	26466.8	100.0
0°-180°	26466.8	100.0



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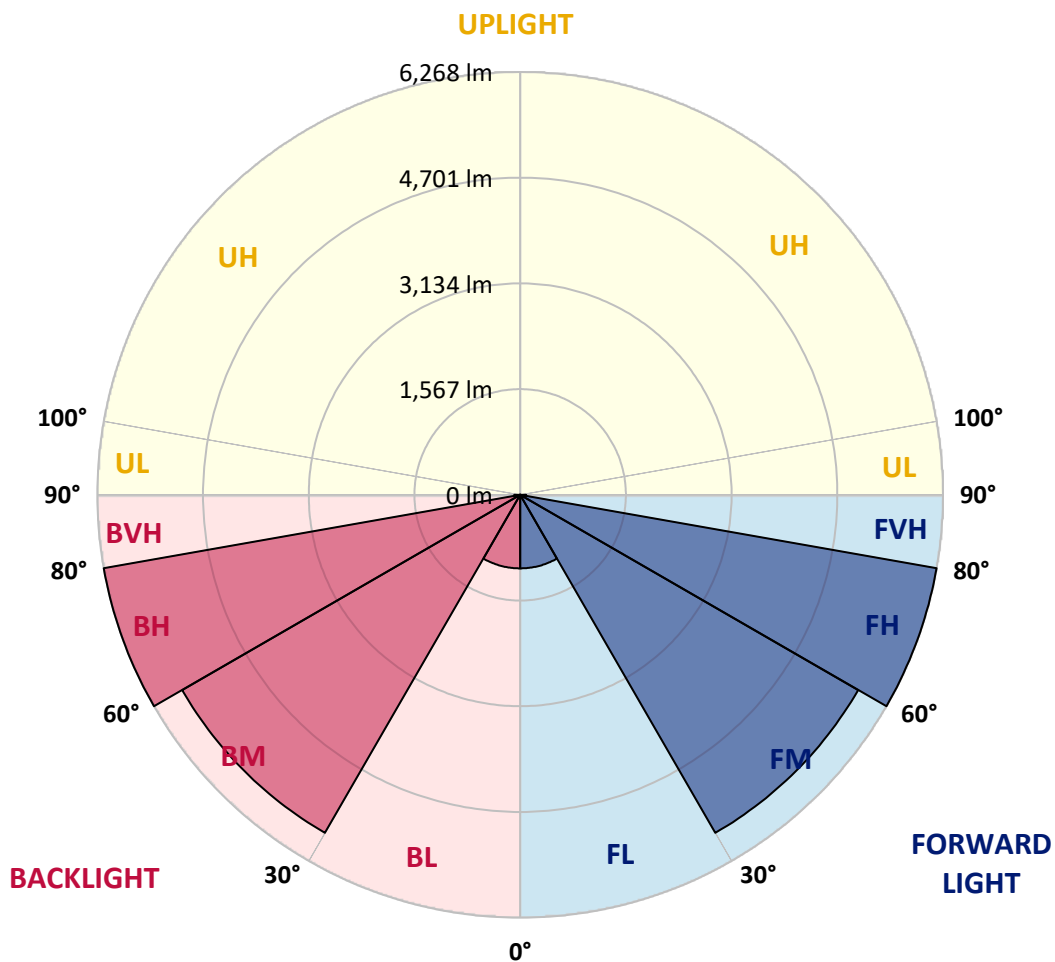
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1090.8	4.1			
FM (30°-60°)	5786.1	21.9			
FH (60°-80°)	6268.4	23.7			G3/7500
FVH (80°-90°)	88.1	0.3			G1/100
BL (0°-30°)	1090.8	4.1	B3/2500		
BM (30°-60°)	5786.1	21.9	B4/8500		
BH (60°-80°)	6268.4	23.7	B5		G3/7500
BVH (80°-90°)	88.1	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G3

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2640.1	2640.1	2640.1	2640.1	2640.1	2640.1	2640.1	2640.1	2640.1	2640.1	2640.1
2.5°	2651.5	2651.5	2654.8	2653.1	2648.2	2643.4	2638.5	2633.7	2630.4	2627.1	2624.0
5°	2624.0	2624.0	2628.8	2625.5	2622.3	2617.4	2614.3	2609.3	2606.1	2602.9	2604.5
7.5°	2588.3	2591.5	2594.7	2593.2	2586.6	2585.0	2580.2	2578.6	2575.3	2570.5	2572.1
10°	2557.5	2559.1	2562.4	2560.8	2559.1	2554.2	2552.7	2551.0	2549.4	2542.9	2541.3
12.5°	2526.7	2530.0	2533.1	2534.8	2533.1	2534.8	2536.4	2538.0	2536.4	2533.1	2533.1
15°	2502.3	2505.6	2510.5	2515.3	2517.0	2526.7	2533.1	2539.7	2544.5	2546.1	2541.3
17.5°	2489.5	2494.3	2500.8	2510.5	2518.6	2530.0	2541.3	2551.0	2559.1	2560.8	2555.8
20°	2487.8	2492.6	2502.3	2513.7	2528.3	2542.9	2560.8	2575.3	2583.5	2588.3	2583.5
22.5°	2499.2	2505.6	2518.6	2533.1	2551.0	2570.5	2593.2	2609.3	2625.5	2632.1	2627.1
25°	2531.6	2538.0	2552.7	2570.5	2589.9	2614.3	2636.9	2657.9	2674.2	2682.3	2675.8
27.5°	2599.6	2601.3	2617.4	2636.9	2659.6	2680.6	2709.8	2719.5	2732.5	2740.6	2732.5
30°	2695.3	2698.4	2713.1	2743.9	2764.9	2792.5	2808.7	2818.4	2833.0	2841.1	2831.4
32.5°	2841.1	2844.3	2857.3	2886.5	2905.9	2927.0	2946.5	2953.0	2967.5	2977.3	2965.9
35°	3047.0	3053.4	3064.8	3084.2	3100.5	3116.6	3131.3	3126.3	3136.1	3149.1	3137.7
37.5°	3329.0	3327.4	3330.5	3345.2	3361.3	3371.1	3393.7	3382.4	3392.1	3403.5	3397.0
40°	3658.0	3658.0	3656.3	3682.2	3688.8	3698.5	3722.8	3708.2	3721.2	3734.1	3722.8
42.5°	4032.4	4038.8	4046.9	4068.0	4085.9	4089.0	4100.4	4094.0	4110.1	4121.5	4110.1
45°	4463.4	4473.2	4482.9	4531.5	4539.7	4546.1	4554.2	4533.1	4551.0	4560.7	4557.5
47.5°	4910.8	4928.6	4949.6	4999.9	5032.3	5046.9	5053.4	5029.0	5030.7	5045.3	5046.9
50°	5416.4	5435.9	5456.9	5513.7	5544.5	5570.4	5578.5	5550.9	5554.2	5565.6	5568.7
52.5°	5883.2	5905.9	5951.2	6027.4	6071.2	6116.5	6119.8	6085.7	6100.4	6108.4	6102.0
55°	6322.4	6351.6	6411.5	6513.6	6593.0	6682.2	6722.7	6685.5	6685.5	6678.9	6675.7
57.5°	6834.5	6867.0	6928.5	7046.9	7157.1	7285.1	7395.3	7432.6	7500.7	7523.4	7487.7
60°	7606.0	7640.0	7703.2	7858.8	7998.2	8184.6	8366.1	8513.6	8753.5	8883.1	8766.5
62.5°	8311.1	8362.9	8512.0	8784.3	9085.7	9430.9	9831.3	10116.5	10552.5	10769.6	10476.2
65°	8150.6	8255.9	8547.7	8975.5	9597.8	10346.6	11161.8	11944.7	12845.8	13307.7	12711.3
67.5°	7119.8	7208.9	7523.4	8021.0	8797.3	9829.6	11097.1	12717.7	14576.7	15442.2	14387.1
68°	6726.0	6892.8	7205.7	7700.1	8482.8	9497.4	10850.6	12601.0	14630.1	15565.3	14426.0
70°	5157.1	5217.0	5516.9	5960.9	6805.4	7800.5	9166.8	11161.8	13455.2	14417.9	13246.1
72.5°	2450.5	2486.2	2680.6	3118.3	3654.7	4465.1	5670.8	7552.5	9618.9	10620.6	9452.0
75°	897.8	906.0	951.3	1055.1	1256.1	1560.7	2139.3	3309.5	4899.4	5842.7	4918.9
77.5°	484.6	486.2	504.0	530.0	565.6	606.1	693.7	930.3	1500.8	2042.1	1585.1
80°	304.7	303.1	320.9	342.0	366.3	385.8	393.8	421.4	474.9	555.9	510.6
82.5°	155.6	170.2	210.7	233.3	269.0	275.5	267.4	265.8	282.0	304.7	314.5
85°	85.9	76.2	111.8	149.1	162.0	166.9	168.6	158.9	155.6	152.3	160.5
87.5°	43.8	40.5	48.6	74.6	79.4	64.9	66.5	56.8	38.9	38.9	40.5
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2640.1	2640.1	2640.1	2640.1	2640.1	2640.1	2640.1	2640.1
2.5°	2620.7	2622.3	2619.1	2619.1	2619.1	2620.7	2619.1	2617.4
5°	2599.6	2602.9	2602.9	2604.5	2606.1	2606.1	2606.1	2606.1
7.5°	2568.8	2570.5	2573.7	2573.7	2573.7	2573.7	2573.7	2573.7
10°	2539.7	2536.4	2534.8	2531.6	2531.6	2526.7	2528.3	2530.0
12.5°	2525.1	2518.6	2515.3	2510.5	2507.3	2502.3	2502.3	2504.0
15°	2531.6	2521.9	2512.1	2508.9	2505.6	2502.3	2499.2	2500.8
17.5°	2544.5	2533.1	2521.9	2515.3	2508.9	2504.0	2502.3	2504.0
20°	2572.1	2555.8	2538.0	2526.7	2513.7	2510.5	2505.6	2510.5
22.5°	2609.3	2589.9	2567.2	2546.1	2531.6	2525.1	2518.6	2523.4
25°	2654.8	2633.7	2611.0	2586.6	2570.5	2565.6	2557.5	2557.5
27.5°	2718.0	2700.1	2680.6	2657.9	2641.8	2636.9	2624.0	2624.0
30°	2818.4	2800.6	2782.7	2763.3	2747.1	2742.2	2726.1	2726.1
32.5°	2951.3	2931.9	2920.5	2904.4	2891.4	2883.3	2863.8	2862.2
35°	3129.6	3111.8	3110.2	3098.8	3085.8	3087.5	3068.0	3064.8
37.5°	3385.7	3371.1	3375.9	3366.2	3354.9	3364.6	3353.2	3353.2
40°	3713.0	3708.2	3713.0	3706.6	3708.2	3709.8	3700.1	3703.3
42.5°	4108.5	4095.6	4124.7	4121.5	4116.7	4129.6	4106.8	4090.7
45°	4563.9	4559.1	4588.2	4593.2	4583.3	4591.5	4551.0	4549.4
47.5°	5058.3	5058.3	5084.2	5080.9	5071.2	5072.8	5024.2	4993.4
50°	5573.6	5570.4	5596.4	5589.8	5576.9	5575.3	5525.1	5494.3
52.5°	6110.1	6110.1	6147.3	6129.5	6098.7	6084.2	6022.6	5982.0
55°	6703.3	6695.2	6706.5	6648.2	6588.2	6544.4	6468.2	6437.4
57.5°	7453.6	7359.6	7278.6	7204.0	7119.8	7068.0	6978.8	6946.3
60°	8518.5	8267.3	8158.6	8009.6	7870.2	7800.5	7682.2	7618.9
62.5°	9993.3	9576.8	9281.8	8952.9	8635.1	8411.5	8231.6	8152.2
65°	11698.3	10790.7	10040.4	9335.3	8737.2	8262.4	7998.2	7915.6
67.5°	12346.6	10680.5	9385.6	8374.2	7648.2	7082.5	6766.5	6700.0
68°	12208.8	10427.7	9082.5	8046.8	7317.5	6747.1	6432.6	6372.7
70°	10769.6	8797.3	7377.5	6346.7	5666.0	5123.0	4901.1	4805.4
72.5°	7341.8	5649.8	4333.8	3466.7	2957.8	2614.3	2410.0	2340.3
75°	3379.2	2283.6	1525.1	1139.4	967.6	885.0	821.7	805.5
77.5°	985.4	716.4	615.9	570.5	536.4	507.3	486.2	484.6
80°	468.4	439.3	426.3	397.1	366.3	338.7	319.3	322.5
82.5°	314.5	306.3	306.3	277.1	228.5	196.1	162.0	145.9
85°	166.9	173.4	183.1	173.4	150.7	111.8	72.9	79.4
87.5°	56.8	64.9	68.0	66.5	59.9	45.4	34.1	34.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)