

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: P196907

Luminaire Tested: **NAV-AF-05-D-UNV-5NQ-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196907
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
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-5NQ-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20380 lumens
Efficiency: N/A
Efficacy: 97.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

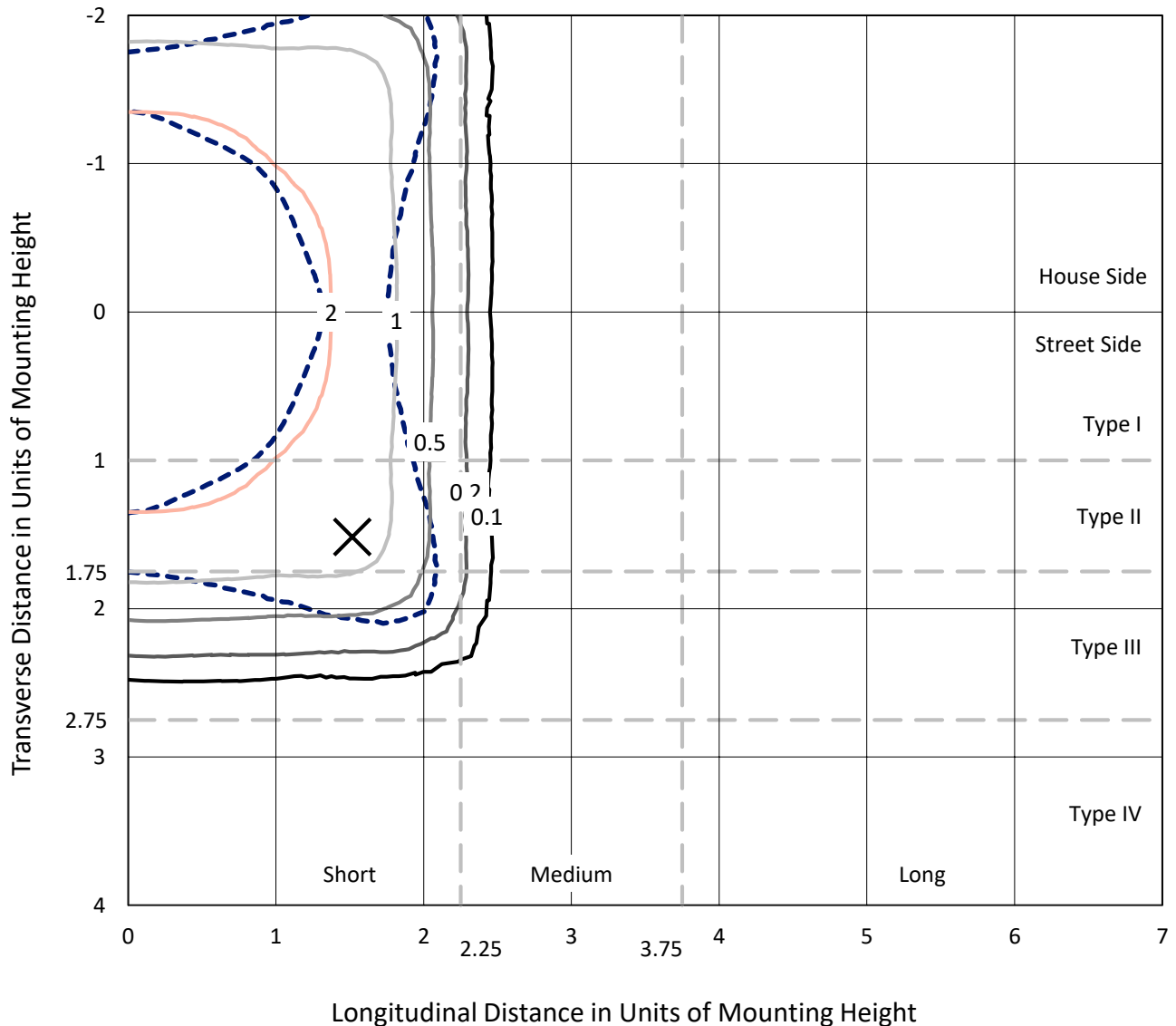
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

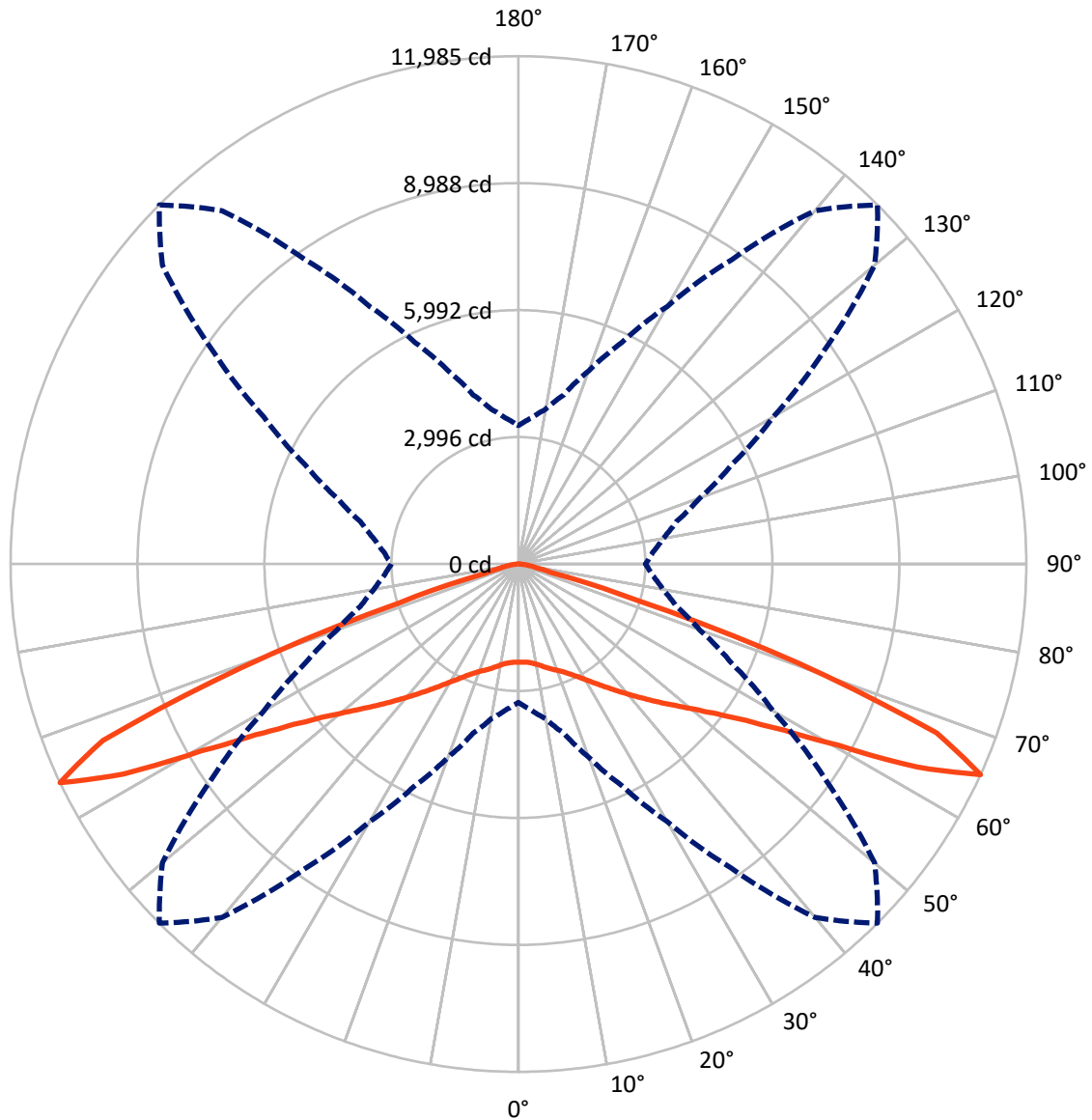
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10190.0	0.0	10190.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10190.0	0.0	10190.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	20380.0	0.0	20380.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.7	1.1
10°-20°	723.5	3.6
20°-30°	1349.7	6.6
30°-40°	2275.9	11.2
40°-50°	3696.7	18.1
50°-60°	5792.0	28.4
60°-70°	5467.4	26.8
70°-80°	736.8	3.6
80°-90°	112.2	0.6
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°	20380.0	100.0
0°-180°	20380.0	100.0



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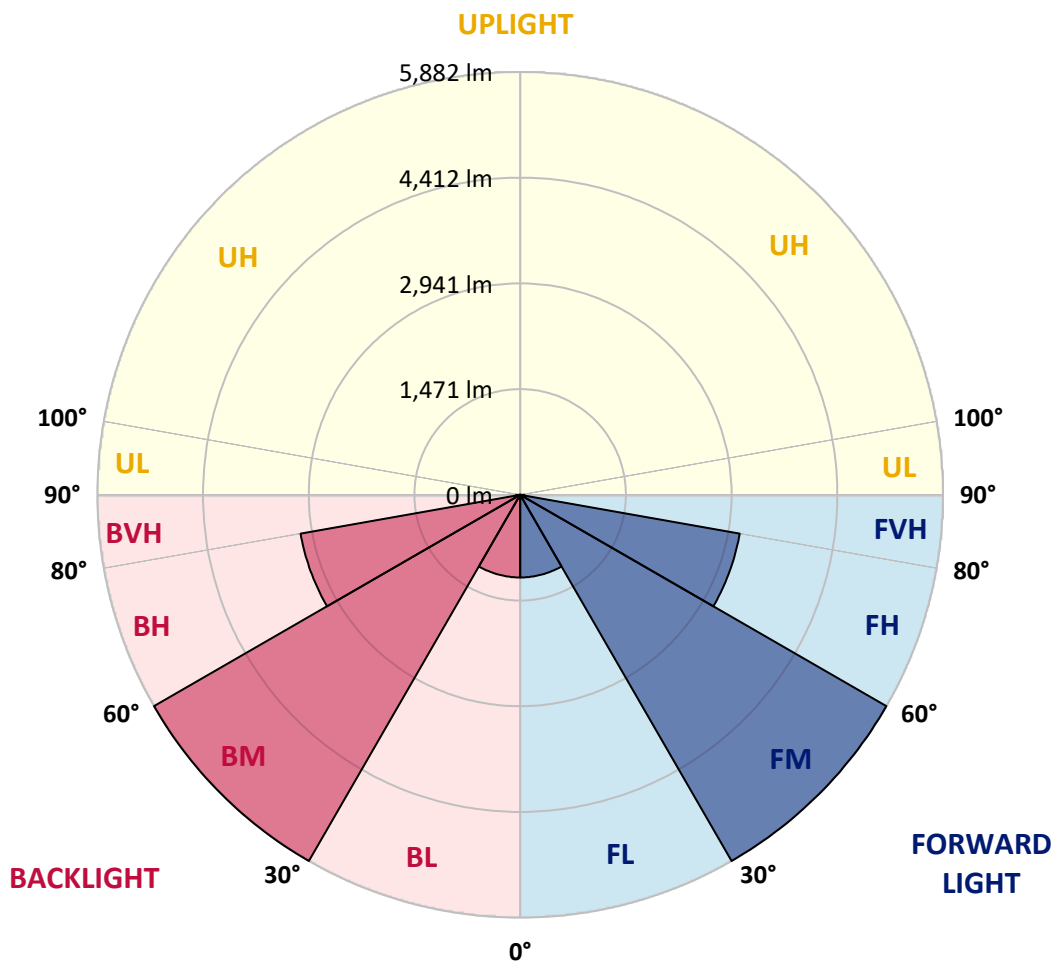
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1149.5	5.6			
FM	(30°-60°)	5882.3	28.9			
FH	(60°-80°)	3102.1	15.2			G2/5000
FVH	(80°-90°)	56.1	0.3			G1/100
BL	(0°-30°)	1149.5	5.6	B3/2500		
BM	(30°-60°)	5882.3	28.9	B4/8500		
BH	(60°-80°)	3102.1	15.2	B4/5000		G2/5000
BVH	(80°-90°)	56.1	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2318.2	2318.2	2318.2	2318.2	2318.2	2318.2	2318.2	2318.2	2318.2	2318.2	2318.2
2.5°	2337.2	2337.2	2341.1	2339.8	2334.7	2330.9	2327.1	2322.0	2319.5	2316.9	2315.7
5°	2349.9	2349.9	2353.7	2352.5	2348.7	2343.6	2341.1	2337.2	2333.4	2330.9	2332.2
7.5°	2381.7	2382.9	2384.2	2382.9	2379.1	2375.3	2370.3	2369.0	2363.9	2360.1	2362.6
10°	2429.9	2429.9	2431.2	2432.5	2429.9	2421.0	2421.0	2418.5	2413.4	2408.3	2409.6
12.5°	2483.2	2483.2	2484.5	2484.5	2484.5	2479.4	2480.7	2479.4	2473.1	2470.5	2473.1
15°	2535.3	2536.6	2536.6	2539.1	2539.1	2540.4	2545.5	2545.5	2542.9	2541.6	2541.6
17.5°	2596.2	2598.8	2600.0	2603.8	2605.1	2607.7	2612.7	2614.0	2615.3	2611.5	2612.7
20°	2677.5	2678.8	2682.6	2683.8	2688.9	2688.9	2691.4	2690.2	2687.6	2682.6	2682.6
22.5°	2768.9	2771.4	2779.0	2779.0	2785.4	2781.6	2782.9	2779.0	2772.7	2770.2	2767.6
25°	2888.2	2892.0	2898.4	2895.8	2898.4	2892.0	2892.0	2892.0	2888.2	2884.4	2883.2
27.5°	3039.3	3033.0	3039.3	3034.2	3033.0	3027.9	3029.1	3026.6	3022.8	3021.5	3016.5
30°	3196.7	3189.1	3192.9	3194.2	3191.7	3190.4	3185.3	3181.5	3175.1	3176.4	3172.6
32.5°	3377.0	3369.4	3373.2	3374.5	3371.9	3374.5	3373.2	3364.3	3356.7	3361.8	3361.8
35°	3591.6	3586.5	3596.6	3600.4	3592.8	3589.0	3583.9	3573.8	3562.4	3570.0	3571.2
37.5°	3849.3	3842.9	3850.5	3860.7	3846.7	3839.1	3818.8	3803.6	3796.0	3799.8	3804.8
40°	4117.2	4118.4	4140.0	4142.5	4127.3	4118.4	4098.1	4075.3	4053.7	4053.7	4060.0
42.5°	4399.0	4402.8	4428.2	4437.1	4432.0	4415.5	4387.6	4359.6	4331.7	4336.8	4344.4
45°	4717.7	4712.6	4739.2	4760.8	4757.0	4751.9	4725.3	4674.5	4649.1	4647.8	4660.5
47.5°	5052.8	5063.0	5090.9	5127.7	5126.4	5113.8	5079.5	5032.5	4985.5	4989.3	5004.6
50°	5443.8	5457.8	5504.8	5541.6	5546.7	5542.9	5502.2	5447.6	5381.6	5385.4	5405.7
52.5°	5794.2	5814.5	5869.1	5945.3	5992.3	6013.9	5987.2	5936.4	5869.1	5872.9	5894.5
55°	6111.6	6143.4	6224.6	6328.7	6422.7	6510.3	6549.6	6548.3	6498.8	6510.3	6538.2
57.5°	6310.9	6355.4	6478.5	6646.1	6832.7	7009.2	7161.5	7305.0	7336.7	7396.4	7396.4
60°	6043.1	6147.2	6310.9	6597.9	6964.8	7360.9	7790.0	8207.6	8476.8	8688.8	8574.5
62.5°	5046.5	5200.1	5429.9	5808.2	6379.5	7086.6	7948.7	8919.9	9933.0	10552.5	10098.0
65°	3265.3	3458.3	3708.4	4133.7	4853.5	5763.8	7019.3	8765.0	10885.1	11984.6	10968.9
67.5°	1293.7	1424.4	1576.8	1878.9	2503.6	3397.3	4806.5	6959.7	9611.8	10649.0	9510.2
70°	618.3	639.9	669.1	733.8	890.0	1201.0	1931.0	3429.1	5894.5	6987.6	5753.6
72.5°	446.9	450.7	464.7	486.2	531.9	595.4	723.6	1048.6	2032.6	2955.5	2035.1
75°	339.0	344.0	351.7	363.1	387.2	417.7	465.9	558.6	695.7	802.4	694.4
77.5°	257.7	262.8	269.1	280.6	293.3	314.8	332.6	369.4	427.8	450.7	448.2
80°	187.9	196.8	206.9	217.1	226.0	236.1	237.4	255.2	288.2	309.8	303.4
82.5°	119.3	127.0	153.6	165.0	166.3	168.9	167.6	168.9	186.6	201.9	196.8
85°	76.2	81.3	95.2	107.9	105.4	110.5	110.5	107.9	100.3	86.3	102.8
87.5°	38.1	39.4	45.7	57.1	54.6	48.2	47.0	47.0	34.3	29.2	31.7
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°	2318.2	2318.2	2318.2	2318.2	2318.2	2318.2	2318.2	2318.2
2.5°	2311.9	2314.4	2310.6	2310.6	2309.3	2311.9	2308.0	2308.0
5°	2329.6	2333.4	2332.2	2332.2	2334.7	2337.2	2336.0	2334.7
7.5°	2361.4	2363.9	2366.4	2367.7	2370.3	2369.0	2371.5	2370.3
10°	2409.6	2407.1	2410.9	2407.1	2408.3	2405.8	2407.1	2407.1
12.5°	2470.5	2466.7	2464.2	2461.7	2461.7	2456.6	2456.6	2457.9
15°	2540.4	2534.0	2528.9	2526.4	2523.9	2523.9	2520.1	2522.6
17.5°	2608.9	2602.6	2593.7	2593.7	2589.9	2587.3	2584.8	2591.2
20°	2681.3	2674.9	2669.9	2668.6	2661.0	2658.4	2659.7	2667.3
22.5°	2765.1	2761.3	2761.3	2758.7	2753.7	2749.8	2749.8	2758.7
25°	2878.1	2870.5	2871.7	2873.0	2870.5	2870.5	2867.9	2874.3
27.5°	3016.5	3010.1	3013.9	3016.5	3013.9	3017.7	3013.9	3019.0
30°	3179.0	3175.1	3179.0	3182.8	3176.4	3176.4	3173.9	3177.7
32.5°	3373.2	3368.1	3370.7	3370.7	3361.8	3354.2	3344.0	3351.6
35°	3586.5	3580.1	3585.2	3589.0	3578.9	3571.2	3556.0	3562.4
37.5°	3821.3	3823.9	3830.2	3846.7	3844.2	3831.5	3820.1	3825.2
40°	4084.1	4096.8	4124.8	4136.2	4133.7	4121.0	4105.7	4108.3
42.5°	4381.2	4397.7	4426.9	4446.0	4437.1	4419.3	4400.3	4407.9
45°	4705.0	4730.3	4768.4	4787.5	4776.1	4757.0	4730.3	4744.3
47.5°	5047.7	5098.5	5149.3	5174.7	5170.9	5144.2	5109.9	5113.8
50°	5457.8	5525.1	5589.8	5615.2	5596.2	5555.6	5507.3	5506.0
52.5°	5968.2	6040.5	6093.8	6087.5	6040.5	5977.0	5922.5	5919.9
55°	6605.5	6629.6	6622.0	6567.4	6484.9	6385.8	6316.0	6304.6
57.5°	7376.1	7294.8	7175.5	7010.5	6825.1	6637.2	6510.3	6463.3
60°	8318.1	7951.2	7524.6	7075.2	6665.1	6357.9	6163.7	6045.6
62.5°	9096.3	8033.7	7080.3	6299.5	5660.9	5281.3	5016.0	4852.2
65°	8829.7	6940.6	5559.4	4552.6	3855.6	3463.3	3182.8	2996.1
67.5°	6821.3	4637.7	3227.2	2236.9	1696.1	1435.9	1254.3	1136.2
70°	3439.2	1778.6	1077.8	760.5	650.0	604.3	573.8	556.1
72.5°	1009.3	674.1	559.9	495.1	455.8	427.8	410.1	401.2
75°	558.6	455.8	402.4	365.6	340.2	321.2	309.8	302.2
77.5°	384.7	331.4	304.7	280.6	260.3	246.3	237.4	229.8
80°	269.1	242.5	231.1	218.4	203.1	191.7	179.0	173.9
82.5°	179.0	167.6	165.0	154.9	146.0	133.3	110.5	102.8
85°	105.4	104.1	104.1	100.3	93.9	82.5	66.0	66.0
87.5°	36.8	38.1	39.4	41.9	40.6	34.3	27.9	26.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)