

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: P196042

Luminaire Tested: **NAV-AF-04-D-UNV-RW-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196042
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24161)
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-RW-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20605.3 lumens
Efficiency: N/A
Efficacy: 120.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B4 - U0 - G4

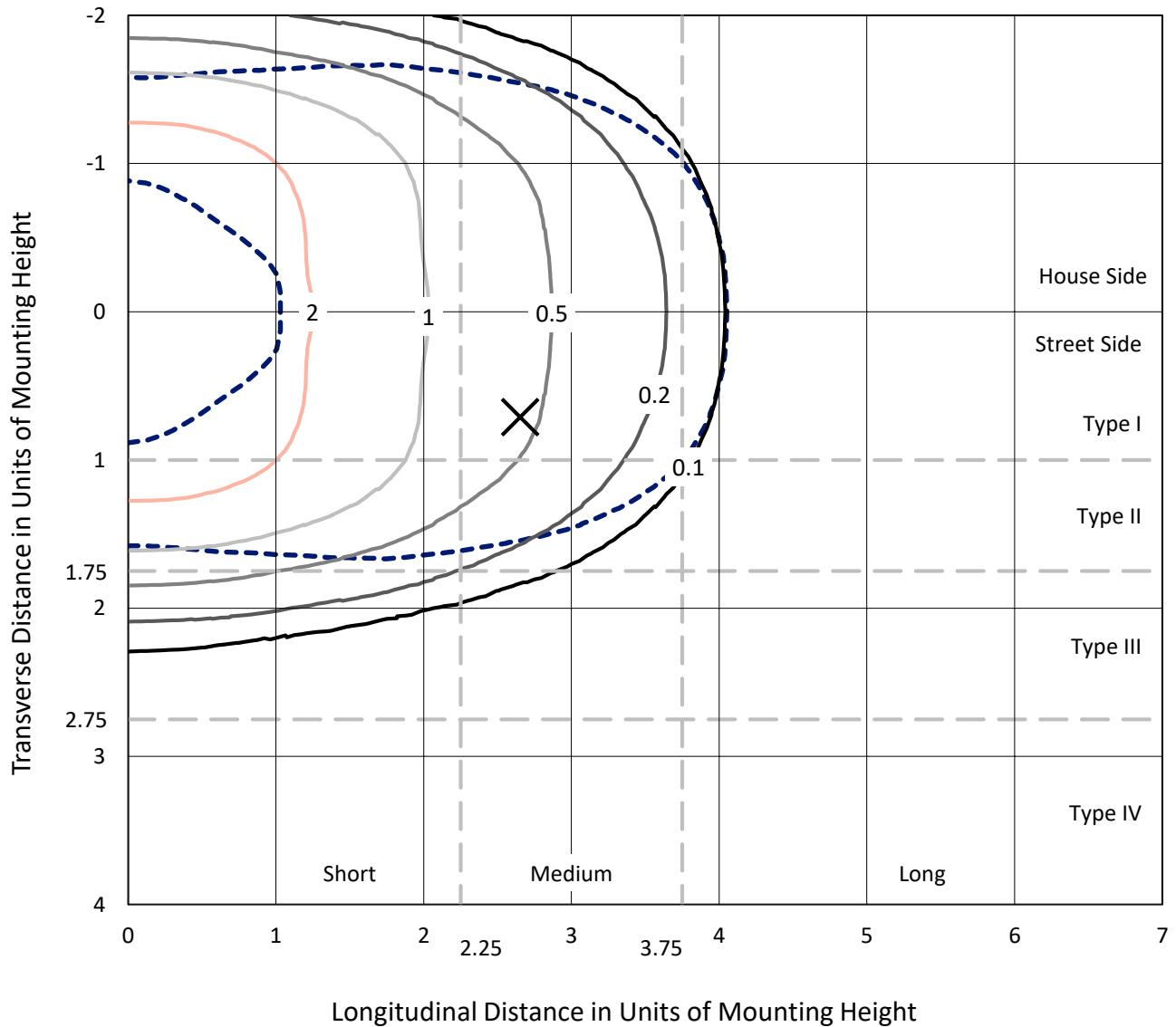
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196042
 CATALOG NUMBER: NAV-AF-04-D-UNV-RW-800

Iso-Footcandle Lines of Horizontal Illumination

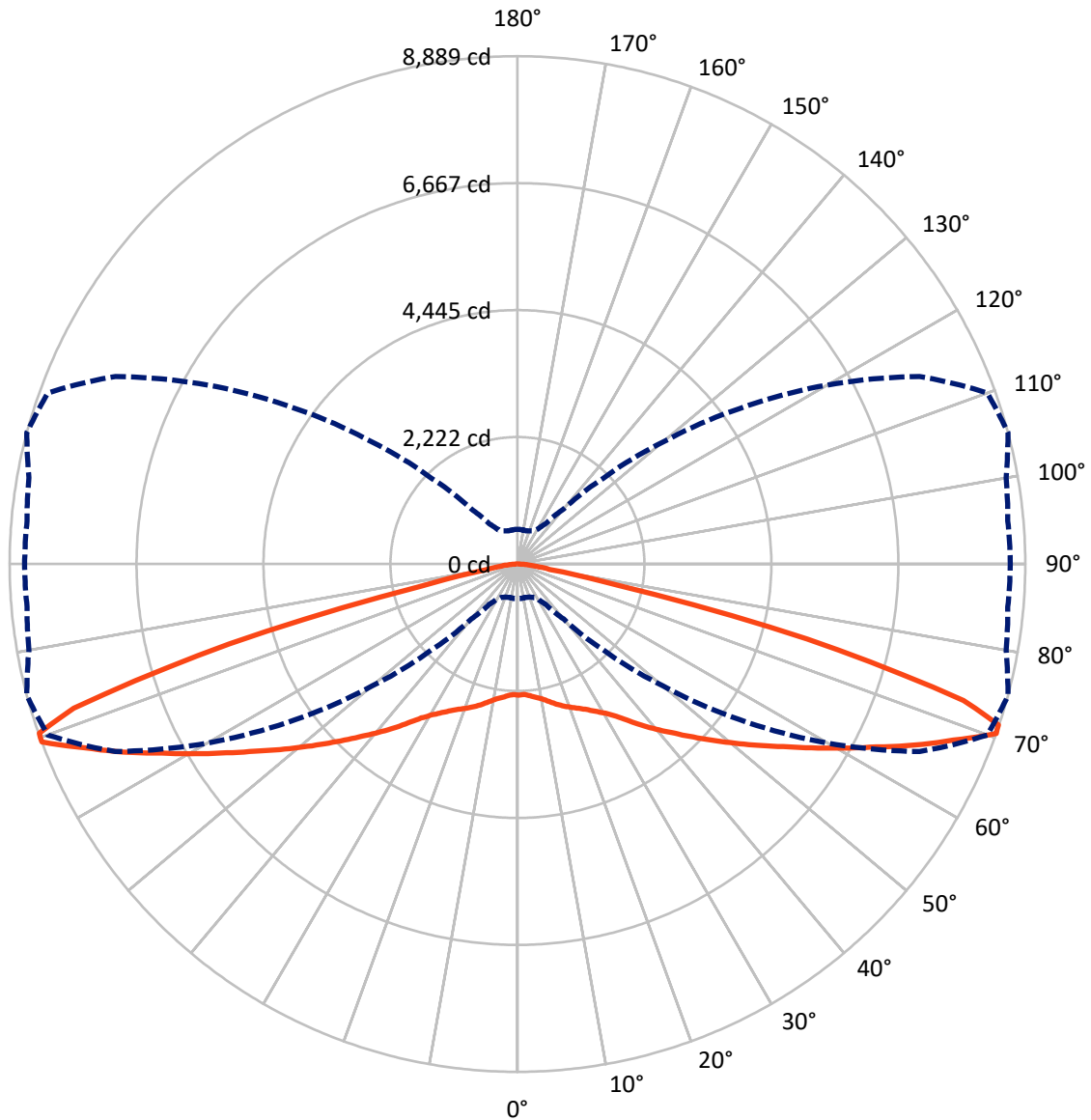
× Max cd
 - - - 1/2 Max cd



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

REPORT NUMBER: P196042
CATALOG NUMBER: NAV-AF-04-D-UNV-RW-800

Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P196042

CATALOG NUMBER: NAV-AF-04-D-UNV-RW-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10302.6	0.0	10302.6
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10302.6	0.0	10302.6
	% Fixture	50.0	0.0	50.0
Total	Lumens	20605.3	0.0	20605.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.1	1.1
10°-20°	682.6	3.3
20°-30°	1282.0	6.2
30°-40°	2258.3	11.0
40°-50°	3742.7	18.2
50°-60°	5206.7	25.3
60°-70°	4915.2	23.9
70°-80°	2099.3	10.2
80°-90°	198.4	1.0
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°	20605.3	100.0
0°-180°	20605.3	100.0



REPORT NUMBER: P196042

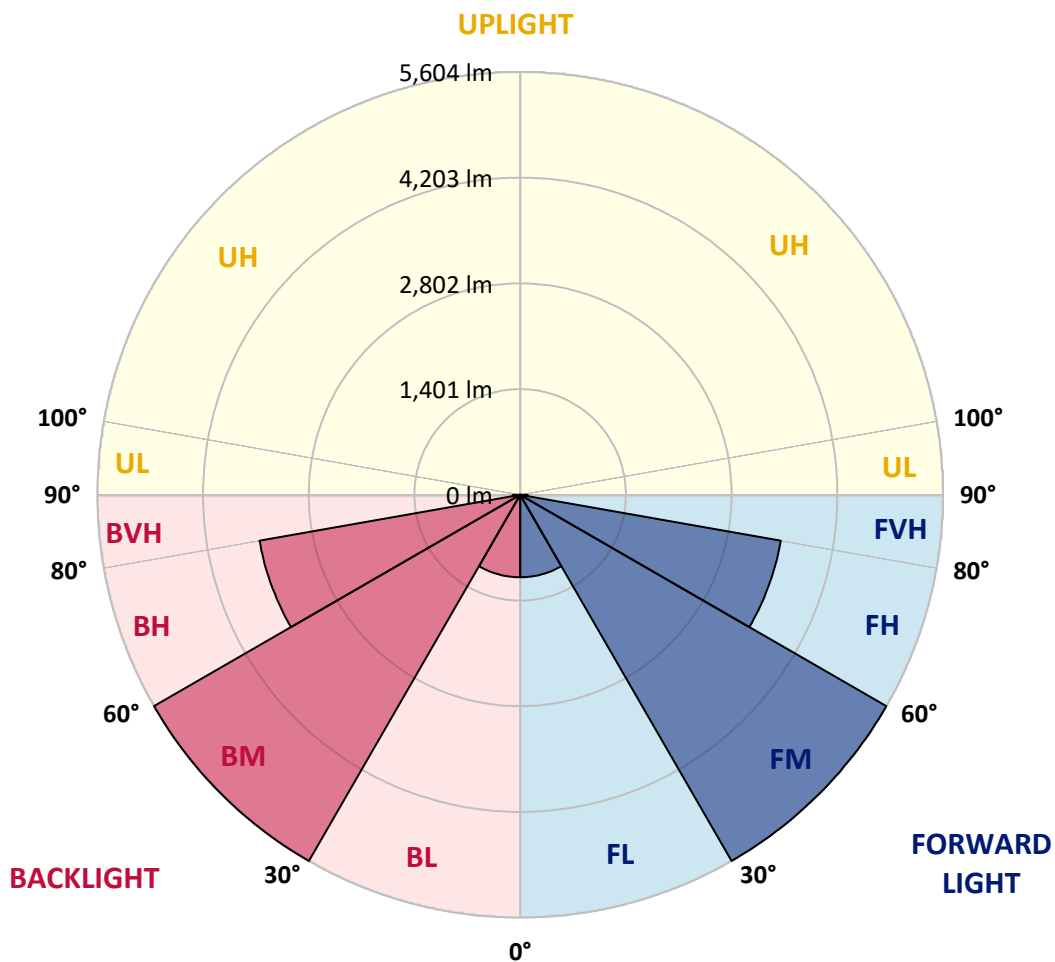
CATALOG NUMBER: NAV-AF-04-D-UNV-RW-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1092.3	5.3			
FM	(30°-60°)	5603.8	27.2			
FH	(60°-80°)	3507.3	17.0			G2/5000
FVH	(80°-90°)	99.2	0.5			G1/100
BL	(0°-30°)	1092.3	5.3	B3/2500		
BM	(30°-60°)	5603.8	27.2	B4/8500		
BH	(60°-80°)	3507.3	17.0	B4/5000		G4/5000
BVH	(80°-90°)	99.2	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4

Type II Medium





REPORT NUMBER: P196042

CATALOG NUMBER: NAV-AF-04-D-UNV-RW-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2294.6	2294.6	2294.6	2294.6	2294.6	2294.6	2294.6	2294.6	2294.6	2294.6	2294.6
2.5°	2308.8	2307.5	2308.8	2304.9	2306.2	2304.9	2304.9	2299.8	2299.8	2297.1	2293.4
5°	2283.0	2285.6	2285.6	2285.6	2289.5	2289.5	2294.6	2295.9	2299.8	2303.7	2306.2
7.5°	2240.4	2241.7	2245.6	2248.1	2255.9	2266.1	2276.5	2288.1	2298.5	2311.4	2325.6
10°	2204.3	2206.8	2213.3	2219.7	2233.9	2246.8	2264.9	2283.0	2301.0	2323.0	2344.9
12.5°	2184.8	2188.7	2199.0	2209.4	2231.4	2248.1	2272.7	2301.0	2325.6	2346.2	2370.8
15°	2187.4	2188.7	2202.9	2217.1	2248.1	2271.4	2306.2	2339.8	2369.5	2392.8	2421.1
17.5°	2224.9	2227.5	2241.7	2262.4	2292.0	2321.7	2359.1	2394.0	2434.0	2461.2	2494.8
20°	2298.5	2302.4	2317.8	2339.8	2372.1	2403.1	2441.8	2478.0	2519.3	2551.5	2585.1
22.5°	2394.0	2400.5	2417.2	2444.3	2476.7	2514.1	2554.1	2591.6	2630.3	2662.6	2691.0
25°	2521.9	2529.7	2547.7	2574.8	2607.1	2647.1	2688.4	2727.2	2767.2	2791.7	2815.0
27.5°	2693.6	2706.5	2725.9	2747.9	2776.3	2818.8	2857.6	2889.8	2928.6	2955.7	2971.3
30°	2924.7	2942.8	2958.3	2981.6	3002.3	3047.4	3078.4	3104.2	3133.9	3149.5	3153.3
32.5°	3207.6	3224.3	3239.8	3256.6	3285.0	3326.3	3356.0	3370.2	3385.8	3383.1	3369.0
35°	3526.5	3539.4	3548.4	3578.2	3624.6	3651.7	3673.7	3678.8	3681.4	3654.3	3627.2
37.5°	3862.3	3877.7	3885.5	3931.9	3975.8	4006.8	4017.1	4028.8	4021.0	3975.8	3926.8
40°	4225.1	4241.9	4265.1	4305.1	4356.7	4386.5	4399.4	4398.1	4391.6	4338.7	4258.6
42.5°	4581.5	4602.2	4621.5	4691.3	4733.8	4784.1	4790.7	4789.4	4775.1	4714.5	4621.5
45°	4883.6	4908.1	4948.2	5025.7	5094.1	5154.8	5179.3	5188.3	5174.2	5109.5	5003.7
47.5°	5132.9	5149.6	5200.0	5294.3	5382.1	5471.2	5520.3	5555.0	5553.8	5507.3	5394.9
50°	5303.3	5322.6	5384.6	5490.5	5600.2	5704.9	5801.7	5880.4	5918.0	5884.3	5779.8
52.5°	5352.4	5376.8	5458.3	5584.8	5712.6	5853.3	5998.0	6137.4	6221.4	6242.0	6160.7
55°	5145.7	5172.9	5291.6	5467.3	5677.8	5885.6	6105.2	6304.0	6477.0	6557.1	6524.8
57.5°	4544.0	4563.4	4714.5	4941.7	5242.6	5608.0	5977.3	6341.5	6638.4	6846.4	6882.5
60°	3593.6	3618.2	3783.5	4023.6	4365.9	4828.1	5344.6	5941.2	6523.6	7000.1	7236.4
62.5°	2425.0	2441.8	2600.6	2820.2	3194.6	3640.1	4216.0	4971.4	5801.7	6652.7	7319.0
65°	1273.2	1273.2	1380.4	1534.0	1832.3	2231.4	2821.4	3596.2	4584.0	5646.8	6761.1
67.5°	738.6	737.3	761.9	796.7	891.0	1052.4	1377.8	1947.3	2882.2	4119.2	5387.2
70°	609.5	605.6	601.7	601.7	615.9	640.5	702.5	858.7	1256.4	2124.2	3314.7
71°	582.4	579.8	569.5	565.6	572.0	584.9	612.0	684.4	892.3	1448.8	2475.3
72.5°	550.0	543.6	528.1	521.7	522.9	528.1	535.9	564.3	627.6	823.9	1411.4
75°	501.0	485.5	466.2	457.2	453.3	451.9	451.9	459.7	473.9	497.2	578.5
77.5°	444.2	422.3	401.6	392.5	386.1	382.2	379.6	374.5	371.8	382.2	411.9
80°	375.7	352.5	335.7	330.6	326.7	319.0	308.6	298.3	291.8	297.0	315.1
82.5°	290.5	267.3	269.9	271.2	264.7	251.7	241.5	229.9	218.2	215.6	224.6
85°	231.2	219.5	211.8	228.5	214.3	198.9	184.6	165.3	138.2	113.6	124.0
87.5°	99.4	100.8	144.6	218.2	191.1	153.6	127.9	103.3	65.9	49.1	50.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196042

CATALOG NUMBER: NAV-AF-04-D-UNV-RW-800

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2294.6	2294.6	2294.6	2294.6	2294.6	2294.6	2294.6	2294.6
2.5°	2292.0	2292.0	2288.1	2285.6	2285.6	2285.6	2283.0	2284.2
5°	2307.5	2310.1	2312.7	2311.4	2315.2	2319.1	2317.8	2316.6
7.5°	2333.4	2341.1	2348.8	2352.7	2357.9	2363.0	2364.3	2360.5
10°	2359.1	2374.7	2386.2	2396.6	2403.1	2408.2	2412.1	2410.8
12.5°	2391.5	2413.4	2434.0	2454.7	2468.9	2476.7	2484.4	2481.9
15°	2444.3	2468.9	2494.8	2521.9	2543.8	2555.4	2567.1	2564.4
17.5°	2516.7	2538.7	2559.3	2586.4	2613.5	2626.4	2639.4	2638.1
20°	2607.1	2623.9	2635.5	2651.0	2676.9	2691.0	2702.6	2698.7
22.5°	2710.4	2715.5	2716.9	2722.0	2742.6	2759.5	2775.0	2778.8
25°	2822.7	2818.8	2811.1	2807.3	2821.4	2839.5	2858.8	2864.1
27.5°	2962.2	2949.3	2929.9	2914.4	2918.3	2941.5	2963.5	2968.6
30°	3137.8	3108.1	3066.8	3037.0	3031.9	3056.5	3079.7	3087.5
32.5°	3338.0	3297.9	3241.1	3195.9	3176.6	3198.5	3219.1	3230.8
35°	3575.5	3531.6	3463.2	3405.1	3374.1	3388.3	3424.4	3437.4
37.5°	3857.0	3796.4	3720.2	3646.6	3595.0	3597.5	3636.3	3651.7
40°	4168.2	4080.4	3983.6	3891.9	3817.0	3811.8	3846.7	3858.4
42.5°	4492.4	4380.0	4266.4	4146.3	4053.3	4036.6	4081.8	4083.0
45°	4841.0	4696.4	4555.6	4416.2	4319.3	4289.6	4333.5	4338.7
47.5°	5212.9	5032.1	4865.6	4714.5	4609.8	4563.4	4605.9	4613.7
50°	5600.2	5413.0	5219.3	5051.4	4928.8	4872.0	4922.3	4927.6
52.5°	5983.8	5806.9	5614.5	5422.0	5273.6	5209.0	5268.4	5286.5
55°	6369.9	6199.4	6018.6	5826.2	5639.0	5582.2	5646.8	5666.1
57.5°	6771.4	6607.4	6443.5	6249.8	6067.7	5981.2	6051.0	6078.1
60°	7214.4	7069.7	6914.8	6719.8	6540.3	6439.6	6499.0	6530.0
62.5°	7649.5	7619.9	7479.1	7276.4	7049.1	6948.4	6998.7	7020.7
65°	7685.7	8167.3	8160.9	7959.5	7641.7	7472.7	7486.9	7497.2
67.5°	6708.2	7813.5	8519.9	8583.2	8229.3	7964.6	7933.6	7940.0
70°	4749.4	6266.6	7765.7	8749.7	8889.1	8683.8	8616.7	8627.1
71°	3805.4	5376.8	7027.2	8350.7	8878.8	8819.5	8781.9	8809.1
72.5°	2428.9	3961.7	5568.0	7151.1	8164.8	8455.3	8497.9	8514.7
75°	882.0	1704.4	2884.7	4133.3	5238.7	5999.3	6417.7	6451.2
77.5°	473.9	610.8	943.9	1410.0	1771.6	1965.3	1988.6	1997.6
80°	348.6	404.2	462.3	528.1	569.5	577.3	563.0	533.3
82.5°	246.6	279.0	302.2	325.4	342.2	328.0	272.4	207.9
85°	143.3	157.5	170.4	182.1	184.6	174.3	114.9	94.2
87.5°	56.8	62.0	60.7	68.4	65.9	60.7	45.2	38.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)