

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: P197050

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197050
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
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-SL2-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15768 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

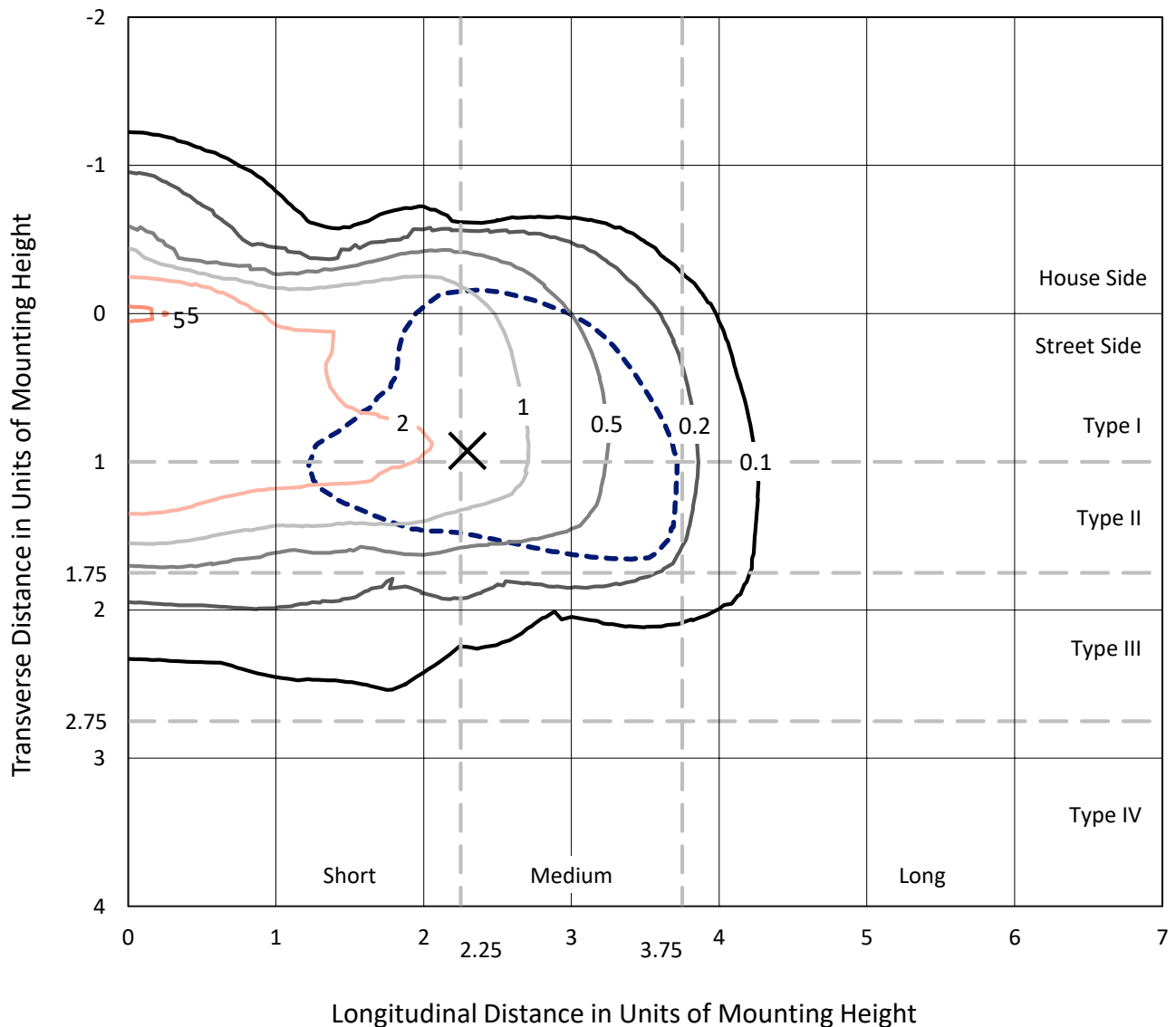
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

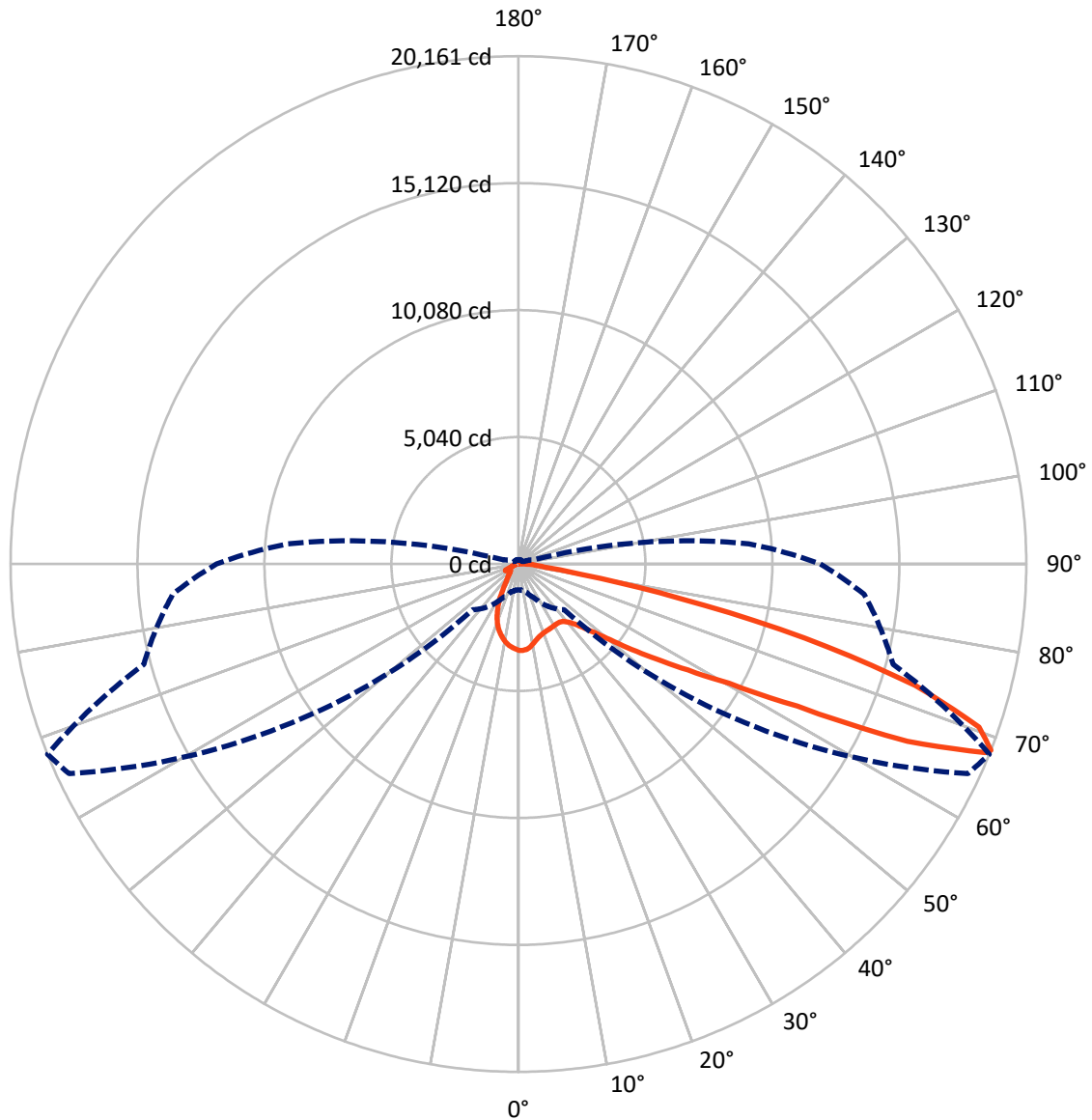
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.5 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2579.7	0.0	2579.7
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	13188.3	0.0	13188.3
	% Fixture	83.6	0.0	83.6
Total	Lumens	15768.0	0.0	15768.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	294.0	1.9
10°-20°	681.8	4.3
20°-30°	922.2	5.8
30°-40°	1300.2	8.2
40°-50°	2138.0	13.6
50°-60°	3314.1	21.0
60°-70°	4297.0	27.3
70°-80°	2465.9	15.6
80°-90°	354.8	2.3
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°	15768.0	100.0
0°-180°	15768.0	100.0



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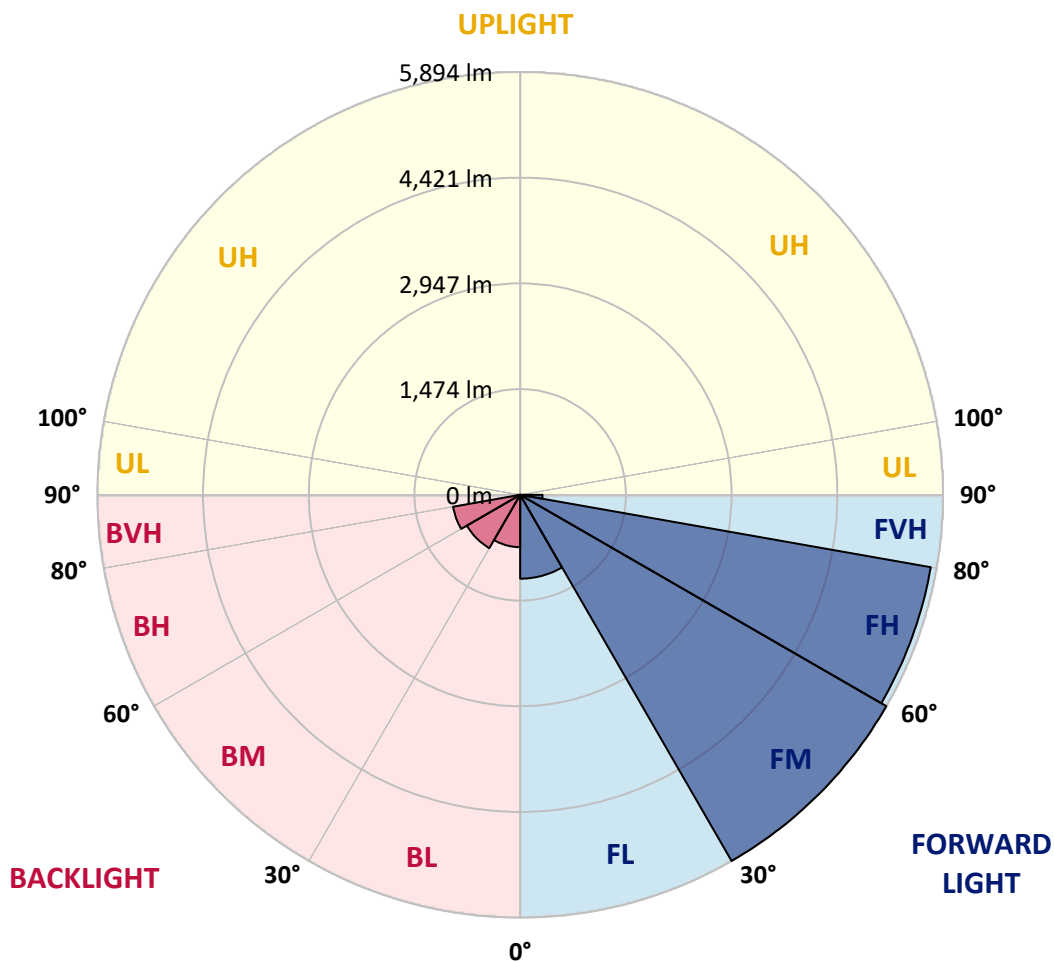
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1168.7	7.4			
FM (30°-60°)	5894.3	37.4			
FH (60°-80°)	5812.8	36.9			G3/7500
FVH (80°-90°)	312.5	2.0			G3/500
BL (0°-30°)	729.3	4.6	B2/1000		
BM (30°-60°)	858.0	5.4	B1/1000		
BH (60°-80°)	950.1	6.0	B2/1000		G2/1000
BVH (80°-90°)	42.3	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0
2.5°	3339.3	3366.1	3366.1	3385.7	3403.2	3417.6	3429.9	3429.9	3429.9	3421.7	3414.5
5°	2988.1	3024.1	3029.3	3078.7	3143.6	3222.9	3311.5	3389.8	3405.2	3434.1	3445.4
7.5°	2744.0	2755.3	2774.9	2808.8	2874.8	2972.6	3111.7	3286.8	3329.0	3419.6	3467.0
10°	2570.9	2580.2	2596.7	2630.7	2690.4	2779.0	2916.0	3143.6	3213.6	3374.3	3468.1
12.5°	2444.2	2451.4	2466.9	2497.8	2558.6	2637.9	2777.9	3014.9	3101.4	3329.0	3482.5
15°	2345.3	2357.7	2370.1	2399.9	2461.7	2538.0	2680.1	2921.1	3014.9	3293.0	3509.3
17.5°	2306.2	2312.4	2314.4	2329.9	2385.5	2462.8	2604.9	2855.2	2952.0	3264.1	3529.9
20°	2330.9	2332.0	2311.4	2301.1	2333.0	2404.1	2542.1	2805.8	2904.6	3238.4	3538.1
22.5°	2439.1	2439.1	2385.5	2340.2	2318.6	2362.9	2499.8	2771.8	2878.9	3218.8	3538.1
25°	2645.1	2635.8	2552.4	2462.8	2367.0	2348.4	2473.1	2750.1	2859.3	3208.5	3524.7
27.5°	2916.0	2907.7	2801.6	2668.8	2495.7	2379.3	2463.8	2732.6	2839.7	3193.0	3495.9
30°	3245.6	3238.4	3117.9	2943.8	2688.3	2477.2	2485.4	2720.3	2824.3	3167.3	3447.5
32.5°	3574.1	3570.0	3474.2	3296.0	2954.1	2643.0	2542.1	2718.2	2816.1	3136.4	3388.7
35°	3904.8	3904.8	3846.1	3695.7	3311.5	2892.3	2660.5	2756.3	2831.5	3119.9	3338.3
37.5°	4393.0	4373.4	4264.3	4108.7	3761.6	3215.7	2852.1	2836.7	2891.2	3147.7	3321.8
40°	5149.0	5092.4	4819.4	4557.8	4252.9	3629.8	3132.3	2992.2	3025.2	3242.5	3360.9
42.5°	5940.1	5850.5	5488.9	5070.8	4760.7	4140.7	3500.0	3244.5	3243.5	3425.8	3485.6
45°	6618.9	6572.5	6181.1	5650.7	5340.6	4715.4	3964.5	3619.5	3582.4	3710.1	3725.6
47.5°	7013.4	6982.5	6746.6	6264.5	6028.7	5394.2	4553.7	4139.6	4069.6	4145.8	4122.1
50°	6904.2	6934.1	6866.1	6619.9	6768.2	6348.0	5304.6	4852.4	4719.5	4795.7	4738.1
52.5°	6329.4	6409.8	6470.5	6517.9	7193.6	7624.2	6248.1	5742.3	5632.1	5618.7	5563.1
55°	5294.3	5422.0	5613.6	5961.7	7079.3	8649.0	7896.1	6818.7	6658.0	6573.5	6595.2
57.5°	3603.0	3796.6	4209.7	4872.0	6485.0	9085.8	10333.1	8209.2	7937.3	7636.5	7706.6
60°	1984.8	2146.5	2637.9	3305.3	5128.4	9020.9	12493.0	10469.1	9613.1	8815.9	8960.1
62.5°	1284.4	1319.4	1685.1	2257.8	3147.7	7964.1	13693.0	14246.1	12432.3	10371.2	10574.1
65°	1032.1	1056.8	1236.0	1821.1	2192.9	5123.3	13746.6	18164.3	16968.4	12484.8	12491.0
67.5°	1008.4	1019.7	1123.7	1531.6	2056.9	2789.3	11882.2	19709.3	19986.4	14979.5	13773.3
68°	1022.8	1036.2	1141.3	1484.2	2055.9	2570.9	10982.0	19685.6	20160.5	15396.6	13773.3
70°	902.3	918.8	1163.9	1535.8	1968.4	2210.4	7520.1	18640.2	19404.4	16355.6	13068.8
72.5°	471.7	458.4	575.8	1212.3	2215.6	2303.1	3972.8	15572.8	16464.8	15147.4	11291.0
75°	367.7	334.8	322.4	479.0	1948.8	2388.6	2307.2	11068.5	11742.2	10919.2	7546.9
77.5°	346.1	305.9	282.2	283.3	858.0	2485.4	1866.4	6513.8	6513.8	5208.8	2408.2
80°	278.1	241.0	225.6	257.5	414.1	2290.8	1947.8	2968.5	2531.8	1346.2	663.3
82.5°	183.3	163.8	164.8	209.1	314.2	1529.6	2255.7	1465.7	1101.1	596.4	390.4
85°	116.4	99.9	111.2	146.3	234.8	681.9	2233.1	1018.7	729.2	334.8	194.7
87.5°	58.7	45.3	55.6	76.2	143.2	195.7	1838.6	909.5	540.8	139.1	106.1
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°	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0	3431.0
2.5°	3414.5	3391.8	3380.5	3362.0	3339.3	3316.6	3301.2	3294.0	3289.9	3291.9	3290.9
5°	3439.2	3409.3	3360.9	3291.9	3220.9	3145.7	3088.0	3043.7	3015.9	3007.6	3005.6
7.5°	3457.8	3414.5	3323.9	3198.2	3076.7	2944.8	2832.5	2742.9	2682.2	2654.3	2653.3
10°	3454.7	3399.0	3255.9	3070.5	2892.3	2698.6	2522.5	2372.1	2262.9	2210.4	2208.3
12.5°	3457.8	3381.5	3172.4	2921.1	2665.7	2388.6	2127.0	1893.2	1730.4	1653.2	1650.1
15°	3470.1	3363.0	3087.0	2754.3	2401.0	2009.6	1635.7	1342.1	1193.8	1143.3	1143.3
17.5°	3469.1	3332.1	2988.1	2560.6	2086.8	1562.5	1116.5	935.3	920.8	967.2	974.4
20°	3448.5	3282.7	2860.3	2330.9	1718.1	1081.5	757.1	731.3	846.7	974.4	988.8
22.5°	3416.6	3218.8	2713.1	2064.1	1288.5	704.5	584.0	623.2	779.7	938.3	961.0
25°	3372.3	3141.5	2544.1	1754.1	857.0	506.8	487.2	535.6	645.8	751.9	768.4
27.5°	3307.4	3043.7	2359.8	1418.3	546.9	417.2	424.4	458.4	505.7	551.1	560.3
30°	3226.0	2929.4	2158.9	1046.5	415.1	372.9	385.2	405.8	426.4	455.3	461.4
32.5°	3143.6	2813.0	1949.8	718.9	362.6	349.2	361.5	372.9	390.4	409.9	414.1
35°	3069.4	2704.8	1734.5	501.6	339.9	333.7	339.9	347.1	364.6	384.2	386.3
37.5°	3015.9	2616.2	1510.0	396.6	326.5	320.3	323.4	326.5	347.1	376.0	379.0
40°	3008.7	2557.5	1282.4	356.4	316.2	308.0	305.9	308.0	334.8	367.7	370.8
42.5°	3078.7	2560.6	1059.9	339.9	308.0	298.7	290.5	294.6	318.3	344.0	346.1
45°	3244.5	2632.7	867.3	332.7	300.8	293.6	281.2	283.3	294.6	308.0	310.0
47.5°	3537.1	2790.3	720.0	328.6	294.6	288.4	273.0	266.8	267.8	275.0	275.0
50°	4004.7	3054.0	630.4	324.5	289.4	278.1	260.6	248.2	245.1	249.3	250.3
52.5°	4702.0	3506.2	587.1	316.2	280.2	264.7	245.1	232.8	227.6	231.8	231.8
55°	5644.5	4228.2	566.5	304.9	268.8	248.2	230.7	220.4	216.3	219.4	219.4
57.5°	6718.8	5166.5	601.5	289.4	254.4	230.7	218.4	211.2	208.1	211.2	212.2
60°	7995.0	6394.3	842.6	269.9	239.0	215.3	208.1	203.9	201.9	205.0	205.0
62.5°	9691.4	8027.9	1304.0	254.4	222.5	200.9	198.8	196.7	194.7	197.8	197.8
65°	11522.8	9514.2	1342.1	245.1	208.1	188.5	189.5	189.5	187.5	190.6	190.6
67.5°	12105.8	9385.5	749.9	233.8	190.6	176.1	180.3	180.3	179.2	182.3	181.3
68°	11982.2	9181.5	653.0	230.7	187.5	173.0	177.2	178.2	177.2	180.3	179.2
70°	11061.3	8060.9	429.5	213.2	174.1	162.7	168.9	170.0	168.9	173.0	172.0
72.5°	9131.1	6046.2	317.2	186.4	157.6	149.4	155.5	156.6	157.6	161.7	160.7
75°	5799.0	3339.3	250.3	158.6	141.1	133.9	140.1	143.2	145.2	151.4	148.3
77.5°	1588.3	1013.5	202.9	134.9	121.5	118.5	122.6	126.7	128.8	136.0	130.8
80°	556.2	448.1	168.9	114.3	100.9	99.9	104.0	108.2	110.2	116.4	110.2
82.5°	337.8	292.5	134.9	89.6	79.3	78.3	83.4	87.6	89.6	89.6	85.5
85°	176.1	154.5	98.9	62.8	54.6	51.5	60.8	65.9	67.0	65.9	62.8
87.5°	98.9	87.6	52.5	29.9	24.7	25.8	31.9	39.1	42.2	41.2	39.1
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)