

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: P196805

Luminaire Tested: **NAV-AF-05-D-UNV-T3R-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196805
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19489.7 lumens
Efficiency: N/A
Efficacy: 120.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G3

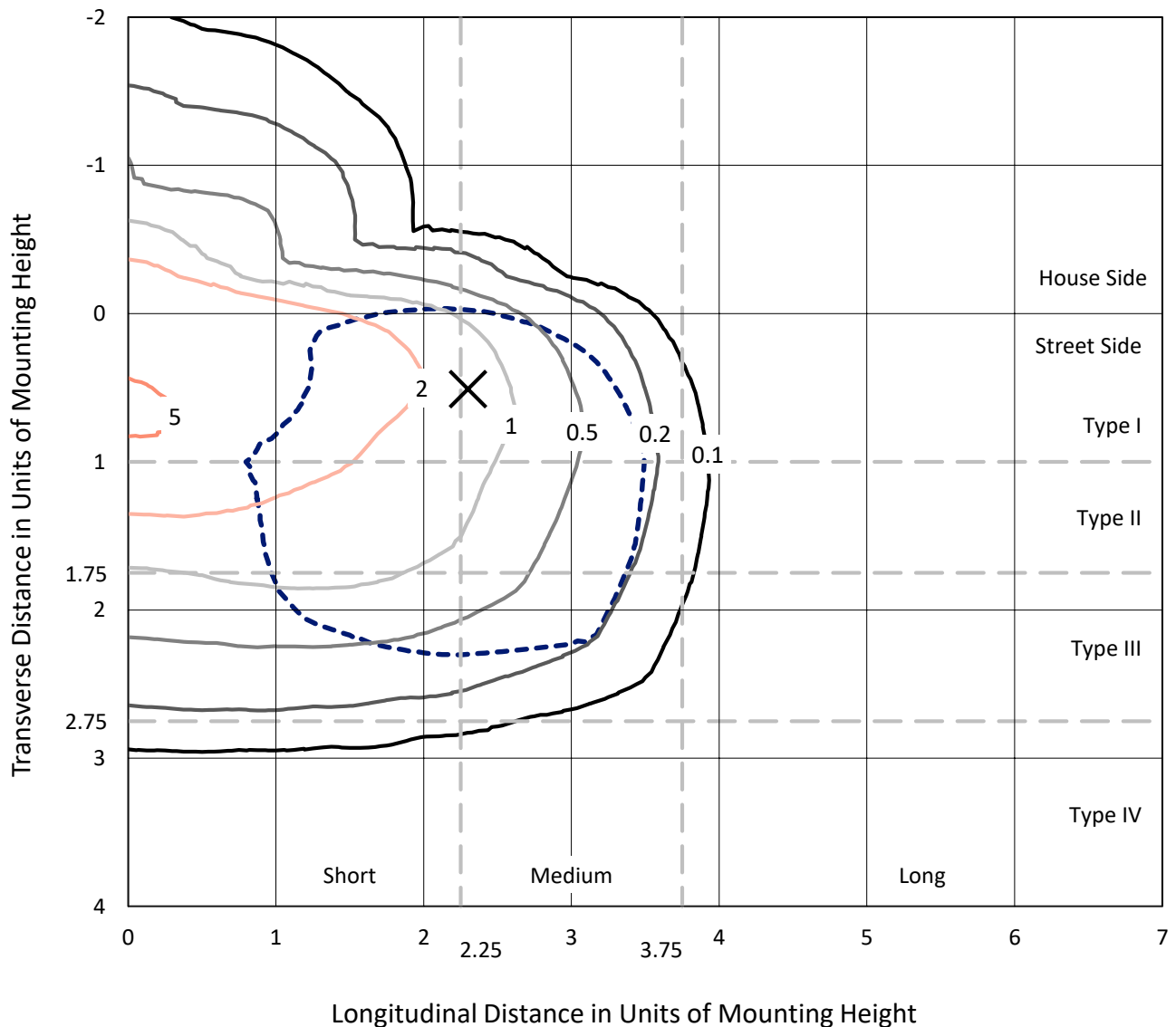
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

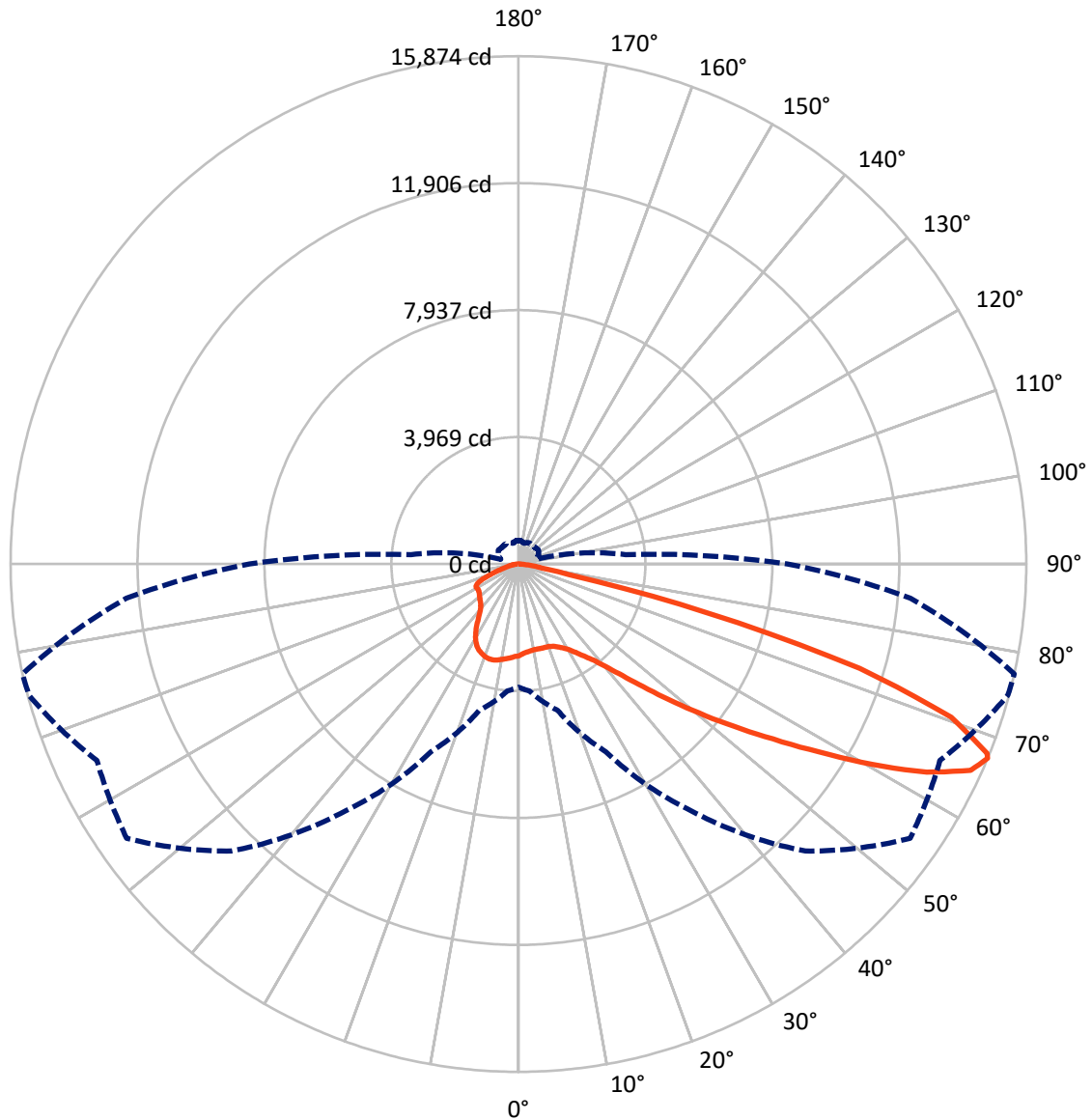
✕ Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3349.3	0.0	3349.3
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	16140.4	0.0	16140.4
	% Fixture	82.8	0.0	82.8
Total	Lumens	19489.7	0.0	19489.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.5	1.3
10°-20°	707.5	3.6
20°-30°	1202.1	6.2
30°-40°	1923.1	9.9
40°-50°	2960.6	15.2
50°-60°	4107.5	21.1
60°-70°	5479.1	28.1
70°-80°	2607.5	13.4
80°-90°	246.9	1.3
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°	19489.7	100.0
0°-180°	19489.7	100.0



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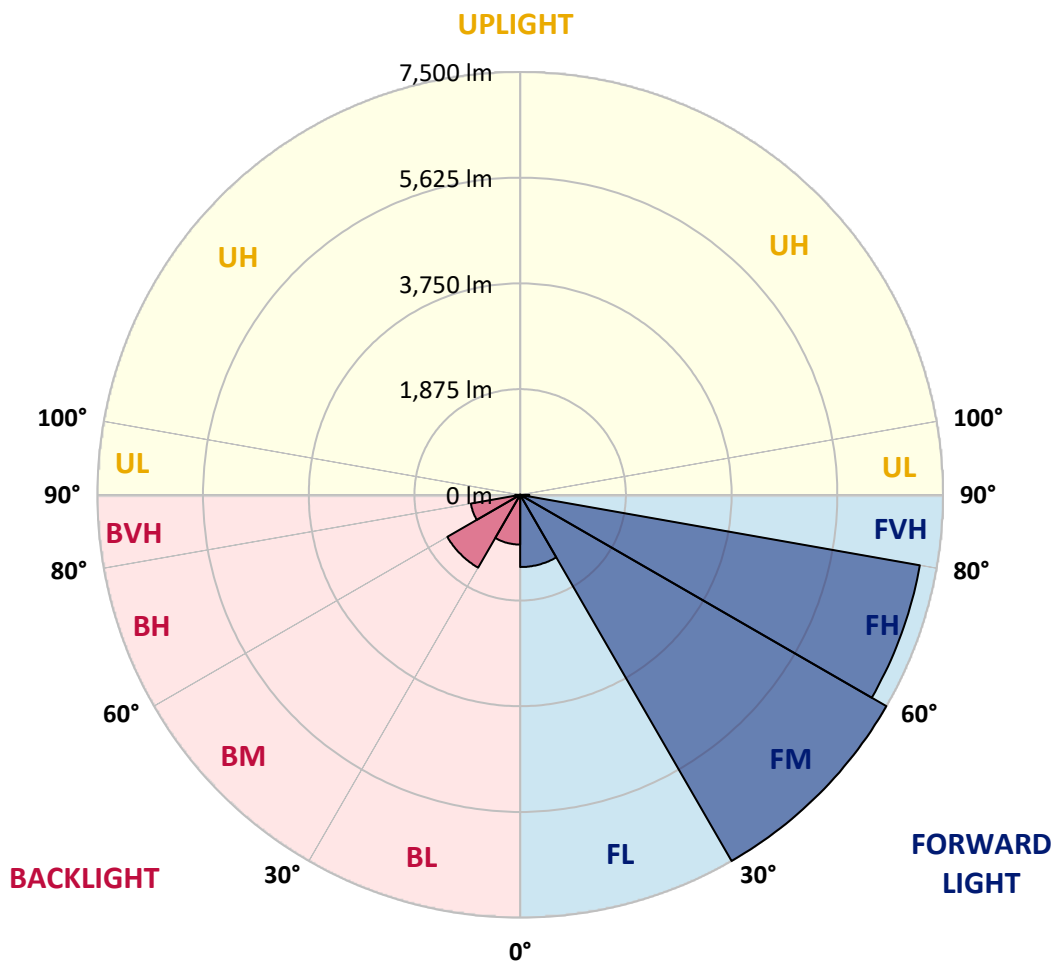
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1281.6	6.6			
FM	(30°-60°)	7499.8	38.5			
FH	(60°-80°)	7198.6	36.9			G3/7500
FVH	(80°-90°)	160.3	0.8			G2/225
BL	(0°-30°)	883.4	4.5	B2/1000		
BM	(30°-60°)	1491.3	7.7	B2/2500		
BH	(60°-80°)	888.1	4.6	B2/1000		G2/1000
BVH	(80°-90°)	86.5	0.4			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 III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4
2.5°	2572.0	2584.1	2585.3	2620.1	2635.9	2675.6	2719.0	2757.4	2791.2	2803.3	2825.0
5°	2314.2	2314.2	2317.8	2340.7	2385.2	2449.1	2539.5	2638.3	2741.9	2767.2	2831.0
7.5°	2179.2	2181.7	2184.1	2207.0	2241.9	2298.6	2389.0	2523.8	2696.1	2738.2	2850.2
10°	2191.3	2187.7	2175.7	2170.9	2185.3	2221.5	2299.8	2438.3	2657.5	2722.6	2885.2
12.5°	2380.4	2373.2	2333.4	2275.7	2222.7	2209.4	2263.7	2395.0	2639.4	2722.6	2944.2
15°	2704.5	2709.3	2631.1	2510.6	2372.0	2278.0	2270.9	2379.2	2633.4	2729.9	3013.0
17.5°	3126.1	3128.5	3020.2	2845.4	2615.3	2421.4	2320.2	2379.2	2633.4	2737.1	3079.2
20°	3574.3	3557.5	3434.6	3215.3	2916.5	2620.1	2410.6	2393.8	2640.7	2747.9	3141.9
22.5°	3958.6	3942.9	3814.0	3583.9	3241.8	2855.2	2532.3	2442.0	2680.4	2792.4	3229.8
25°	4294.8	4304.4	4179.0	3920.1	3565.9	3120.1	2714.2	2552.8	2763.6	2873.2	3338.2
27.5°	4703.1	4685.0	4540.5	4293.6	3899.6	3394.8	2941.8	2692.4	2862.4	2970.8	3470.7
30°	5175.4	5166.9	4971.8	4717.6	4267.0	3702.0	3167.1	2843.0	2991.2	3104.5	3636.9
32.5°	5748.7	5747.6	5538.0	5226.0	4680.2	4048.9	3433.4	3049.1	3179.2	3293.6	3857.4
35°	6398.1	6396.9	6180.0	5768.1	5156.1	4433.3	3746.6	3299.6	3411.7	3532.2	4120.0
37.5°	6848.7	6841.5	6728.1	6328.2	5682.6	4880.2	4138.0	3636.9	3675.5	3810.4	4436.9
40°	6935.4	6978.7	7076.4	6840.1	6257.2	5376.5	4530.9	3999.6	4035.7	4209.2	4835.6
42.5°	6841.5	6898.1	7222.1	7288.3	6831.8	5977.7	5022.3	4501.9	4547.7	4763.3	5304.2
45°	6759.6	6808.9	7214.9	7536.6	7399.2	6633.0	5635.6	5115.1	5201.9	5469.3	5839.2
47.5°	6619.8	6665.6	7072.8	7581.1	7723.3	7264.3	6373.9	5852.4	6001.7	6325.8	6448.7
50°	6612.6	6633.0	6878.8	7431.7	7835.3	7743.7	7192.0	6715.0	6943.9	7317.3	7123.3
52.5°	6429.5	6572.8	6795.7	7193.2	7837.7	8023.2	7997.9	7660.6	8013.6	8426.8	7863.1
55°	5309.0	5474.1	6518.6	7076.4	7823.3	8262.9	8733.9	8666.6	9218.3	9653.2	8691.8
57.5°	4957.3	5027.1	5718.6	7111.2	7943.7	8659.4	9470.0	9747.1	10596.4	11071.1	9685.8
60°	4861.0	4934.3	5558.4	7128.2	8270.2	9380.9	10468.7	10967.5	12216.8	12720.3	10814.5
62.5°	4753.8	4848.9	5570.5	7143.8	8843.7	10448.3	11793.9	12291.4	13880.4	14329.8	11872.2
65°	4440.6	4566.9	5347.5	7045.0	9471.2	11787.9	13545.5	13672.0	15255.0	15540.5	12510.7
67°	3846.6	3985.1	4735.7	6474.0	9413.4	12690.3	14946.5	14535.8	15839.4	15874.2	12303.4
67.5°	3658.6	3802.0	4528.5	6236.6	9248.4	12808.3	15194.8	14655.1	15834.4	15795.9	12110.8
70°	2463.6	2625.1	3206.9	4579.0	7418.4	11920.4	15134.5	14287.7	14796.0	14353.9	10404.9
72.5°	1222.7	1227.5	1599.8	2508.1	4494.7	8549.6	12625.1	12222.9	11993.9	11159.0	7635.4
75°	589.1	600.0	755.3	1108.3	1895.0	4414.0	8609.9	8247.3	7022.1	6080.1	3821.3
77.5°	449.4	460.2	586.7	721.6	790.3	1439.6	4264.6	3446.6	2034.7	1625.1	1077.0
80°	346.9	367.4	495.2	554.2	522.8	577.0	1340.8	1055.3	791.5	726.5	533.7
82.5°	271.1	283.1	420.4	420.4	361.4	386.7	624.0	609.5	491.5	443.4	286.7
85°	191.5	215.7	338.4	313.2	237.3	239.8	373.4	357.9	252.9	203.5	112.0
87.5°	85.5	109.6	240.9	204.8	126.5	97.6	153.0	131.3	100.0	77.1	51.8
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°	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4	2868.4
2.5°	2849.1	2868.4	2898.4	2916.5	2940.6	2950.3	2960.0	2976.8	2990.0	2986.4	2980.4
5°	2875.6	2908.2	2945.5	2957.5	2957.5	2945.5	2938.2	2939.4	2935.8	2933.4	2926.2
7.5°	2914.2	2958.7	2985.2	2973.2	2935.8	2888.9	2844.2	2817.8	2792.4	2776.9	2781.6
10°	2968.3	3017.7	3019.0	2966.0	2876.8	2774.4	2686.4	2629.9	2575.7	2551.5	2558.8
12.5°	3046.7	3096.1	3053.9	2939.4	2782.9	2622.7	2461.2	2344.3	2239.5	2214.2	2207.0
15°	3131.1	3169.5	3075.5	2882.8	2647.9	2384.0	2113.1	1938.4	1821.5	1801.0	1793.8
17.5°	3204.5	3226.2	3064.7	2781.6	2434.7	2019.1	1703.5	1585.4	1561.4	1573.4	1573.4
20°	3269.5	3262.3	3017.7	2625.1	2098.6	1614.3	1431.2	1429.9	1462.6	1492.6	1495.0
22.5°	3351.4	3294.8	2943.0	2392.6	1697.5	1346.8	1315.5	1346.8	1383.0	1416.8	1420.4
25°	3449.0	3331.0	2843.0	2061.1	1364.8	1222.7	1236.0	1262.5	1285.4	1311.8	1313.1
27.5°	3546.5	3358.6	2702.1	1672.1	1184.3	1143.3	1157.7	1168.5	1174.5	1191.5	1191.5
30°	3659.8	3380.4	2498.5	1339.6	1101.2	1073.4	1065.0	1060.2	1065.0	1087.7	1089.0
32.5°	3802.0	3418.9	2220.2	1149.3	1062.5	1024.0	980.6	956.6	973.4	1014.4	1021.6
35°	3963.4	3464.7	1886.6	1073.4	1049.3	999.9	920.4	883.1	889.1	926.4	932.4
37.5°	4165.8	3523.7	1557.7	1055.3	1062.5	997.5	892.6	839.6	813.2	814.4	813.2
40°	4424.8	3582.7	1297.5	1060.2	1091.5	1003.5	879.4	796.3	740.9	743.3	748.1
42.5°	4695.9	3621.3	1132.4	1074.6	1126.4	1012.0	874.6	754.1	706.0	746.9	784.3
45°	5012.7	3610.5	1046.9	1087.7	1152.9	1015.6	856.5	749.3	709.5	832.4	902.3
47.5°	5376.5	3563.5	998.7	1093.9	1160.2	1014.4	843.3	765.0	739.6	953.0	1032.4
50°	5771.6	3490.0	960.2	1084.2	1156.5	1009.5	857.6	784.3	751.7	979.4	1040.8
52.5°	6204.2	3422.5	920.4	1062.5	1138.5	995.1	875.8	775.8	718.0	902.3	949.3
55°	6716.1	3406.8	875.8	1025.2	1108.3	979.4	866.2	749.3	680.6	799.9	828.8
57.5°	7301.6	3504.5	818.1	979.4	1067.4	948.1	843.3	734.9	667.3	727.6	743.3
60°	8044.9	3720.1	756.5	931.2	1016.7	901.1	822.8	738.5	671.0	716.7	720.4
62.5°	8625.6	3914.0	701.1	872.2	949.3	844.5	801.1	742.1	681.9	731.3	725.3
65°	8836.5	3818.8	632.5	784.3	854.1	781.9	771.1	744.5	681.9	739.6	726.5
67°	8403.9	3364.7	567.4	696.3	763.7	726.5	742.1	734.9	669.8	738.5	715.5
67.5°	8197.9	3204.5	550.5	681.9	739.6	709.5	734.9	730.1	666.2	736.1	709.5
70°	6760.8	2298.6	465.0	572.2	619.2	625.2	690.3	698.7	637.3	691.5	643.3
72.5°	4810.3	1438.4	401.2	443.4	500.0	535.0	630.1	656.5	598.7	601.2	561.4
75°	2380.4	772.3	357.9	342.1	389.1	445.8	549.3	598.7	542.2	501.2	488.0
77.5°	803.5	437.2	302.4	275.9	302.4	357.9	455.4	522.8	478.2	424.0	415.6
80°	415.6	318.1	236.1	221.7	238.5	277.1	356.6	434.9	408.4	410.9	338.4
82.5°	259.1	193.9	169.9	168.7	180.8	212.1	262.7	353.0	350.6	299.9	218.1
85°	120.5	112.0	108.3	112.0	115.6	120.5	171.1	251.8	266.3	161.3	143.3
87.5°	50.6	49.3	43.3	47.0	51.8	50.6	68.7	107.2	149.3	101.2	92.8
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)