

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: P195365

Luminaire Tested: **NAV-AF-05-D-UNV-T3R-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195365
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-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 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: 20151 lumens
Efficiency: N/A
Efficacy: 124.4 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

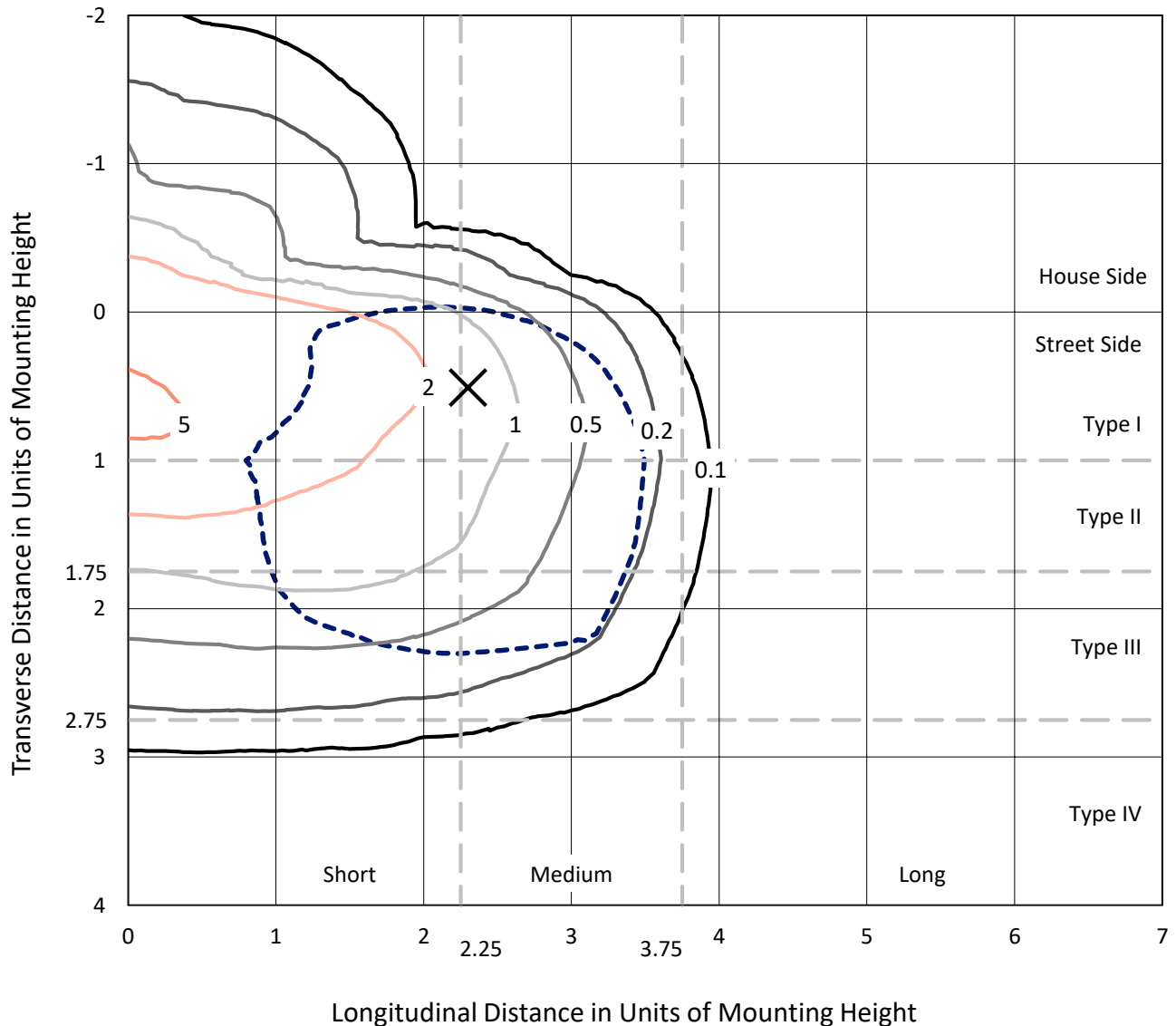
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

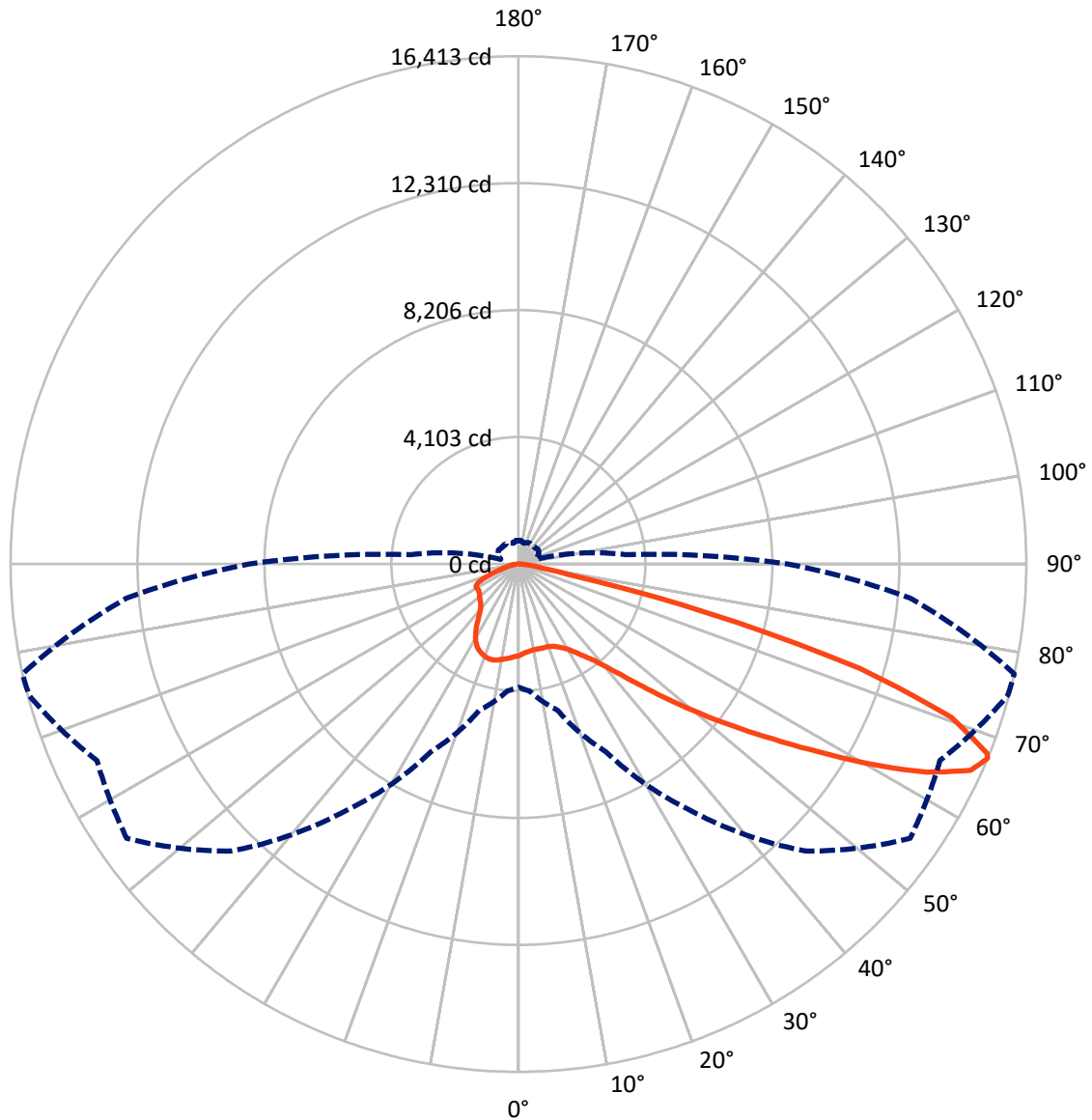
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 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	3462.9	0.0	3462.9
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	16688.1	0.0	16688.1
	% Fixture	82.8	0.0	82.8
Total	Lumens	20151.0	0.0	20151.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	264.1	1.3
10°-20°	731.5	3.6
20°-30°	1242.9	6.2
30°-40°	1988.3	9.9
40°-50°	3061.0	15.2
50°-60°	4246.9	21.1
60°-70°	5665.0	28.1
70°-80°	2696.0	13.4
80°-90°	255.3	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°	20151.0	100.0
0°-180°	20151.0	100.0



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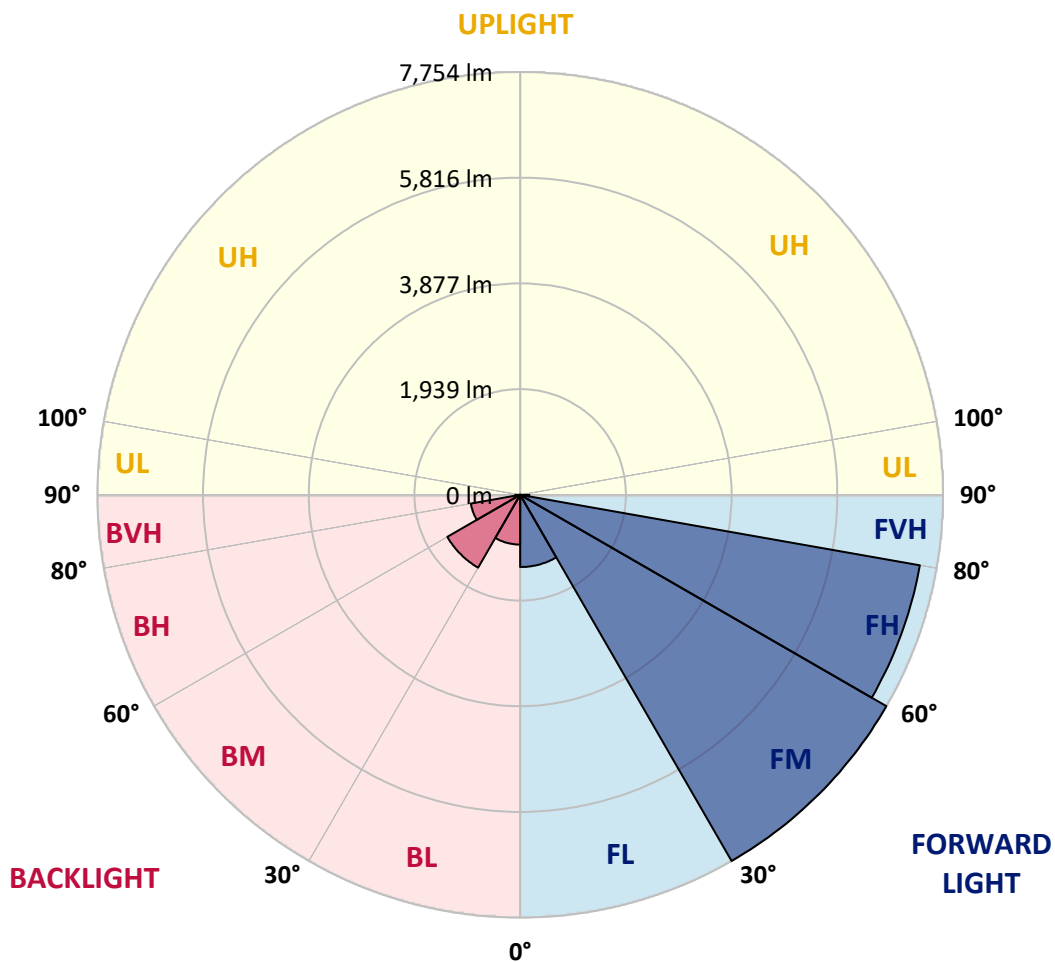
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1325.1	6.6			
FM	(30°-60°)	7754.3	38.5			
FH	(60°-80°)	7442.8	36.9			G3/7500
FVH	(80°-90°)	165.8	0.8			G2/225
BL	(0°-30°)	913.4	4.5	B2/1000		
BM	(30°-60°)	1541.9	7.7	B2/2500		
BH	(60°-80°)	918.2	4.6	B2/1000		G2/1000
BVH	(80°-90°)	89.5	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°	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7
2.5°	2659.3	2671.7	2673.0	2709.1	2725.3	2766.4	2811.2	2851.1	2886.0	2898.4	2920.9
5°	2392.7	2392.7	2396.5	2420.1	2466.2	2532.2	2625.7	2727.8	2834.9	2861.1	2927.1
7.5°	2253.2	2255.7	2258.2	2281.9	2318.0	2376.5	2470.0	2609.5	2787.6	2831.2	2947.0
10°	2265.7	2262.0	2249.5	2244.5	2259.5	2296.8	2377.8	2521.0	2747.7	2815.0	2983.1
12.5°	2461.2	2453.8	2412.7	2352.9	2298.1	2284.4	2340.4	2476.2	2729.0	2815.0	3044.2
15°	2796.3	2801.3	2720.3	2595.8	2452.5	2355.4	2347.9	2460.0	2722.8	2822.5	3115.2
17.5°	3232.2	3234.7	3122.6	2942.0	2704.1	2503.6	2399.0	2460.0	2722.8	2829.9	3183.7
20°	3695.6	3678.2	3551.1	3324.4	3015.5	2709.1	2492.4	2474.9	2730.3	2841.1	3248.4
22.5°	4092.9	4076.7	3943.5	3705.6	3351.8	2952.0	2618.2	2524.8	2771.4	2887.2	3339.4
25°	4440.5	4450.4	4320.9	4053.1	3686.9	3226.0	2806.3	2639.4	2857.3	2970.7	3451.5
27.5°	4862.7	4844.0	4694.5	4439.2	4031.9	3510.0	3041.7	2783.8	2959.5	3071.6	3588.5
30°	5351.0	5342.2	5140.5	4877.6	4411.8	3827.6	3274.6	2939.5	3092.7	3209.8	3760.4
32.5°	5943.9	5942.6	5725.9	5403.3	4839.0	4186.4	3549.9	3152.5	3287.1	3405.4	3988.3
35°	6615.2	6614.0	6389.8	5963.8	5331.0	4583.7	3873.7	3411.6	3527.4	3652.0	4259.8
37.5°	7081.1	7073.6	6956.5	6543.0	5875.3	5045.8	4278.5	3760.4	3800.2	3939.7	4587.4
40°	7170.7	7215.6	7316.5	7072.3	6469.5	5559.0	4684.6	4135.3	4172.7	4352.0	4999.7
42.5°	7073.6	7132.1	7467.2	7535.7	7063.6	6180.5	5192.8	4654.7	4702.0	4925.0	5484.2
45°	6988.9	7040.0	7459.7	7792.3	7650.3	6858.1	5826.8	5288.7	5378.4	5654.9	6037.3
47.5°	6844.4	6891.7	7312.7	7838.4	7985.3	7510.8	6590.3	6051.0	6205.4	6540.5	6667.5
50°	6836.9	6858.1	7112.2	7683.9	8101.2	8006.5	7436.0	6942.8	7179.5	7565.6	7365.0
52.5°	6647.6	6795.8	7026.2	7437.3	8103.7	8295.5	8269.3	7920.6	8285.5	8712.7	8129.8
55°	5489.2	5659.9	6739.8	7316.5	8088.7	8543.4	9030.4	8960.6	9531.1	9980.7	8986.8
57.5°	5125.5	5197.8	5912.7	7352.6	8213.3	8953.1	9791.4	10077.9	10956.0	11446.8	10014.4
60°	5025.9	5101.8	5747.1	7370.0	8550.8	9699.2	10824.0	11339.7	12631.3	13152.0	11181.5
62.5°	4915.0	5013.4	5759.5	7386.2	9143.7	10802.8	12194.1	12708.5	14351.4	14816.0	12275.1
65°	4591.2	4721.9	5529.1	7284.1	9792.7	12187.9	14005.2	14136.0	15772.6	16067.8	12935.2
67°	3977.1	4120.3	4896.3	6693.7	9732.9	13120.8	15453.8	15029.0	16376.7	16412.9	12721.0
67.5°	3782.8	3931.0	4682.1	6448.3	9562.2	13242.9	15710.4	15152.3	16371.7	16331.9	12521.7
70°	2547.2	2714.1	3315.7	4734.4	7670.2	12324.9	15648.1	14772.4	15298.1	14840.9	10758.0
72.5°	1264.3	1269.2	1654.1	2593.3	4647.2	8839.8	13053.6	12637.5	12400.9	11537.7	7894.4
75°	609.1	620.3	781.0	1145.9	1959.3	4563.8	8902.1	8527.2	7260.4	6286.4	3950.9
77.5°	464.6	475.8	606.6	746.1	817.1	1488.5	4409.3	3563.6	2103.8	1680.3	1113.5
80°	358.7	379.9	511.9	573.0	540.6	596.6	1386.3	1091.1	818.3	751.1	551.8
82.5°	280.3	292.7	434.7	434.7	373.7	399.8	645.2	630.3	508.2	458.4	296.4
85°	198.0	223.0	350.0	323.8	245.4	247.9	386.1	369.9	261.6	210.5	115.8
87.5°	88.4	113.3	249.1	211.7	130.8	100.9	158.2	135.8	103.4	79.7	53.6
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°	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7	2965.7
2.5°	2945.8	2965.7	2996.8	3015.5	3040.4	3050.4	3060.4	3077.8	3091.5	3087.8	3081.5
5°	2973.2	3006.8	3045.4	3057.9	3057.9	3045.4	3037.9	3039.2	3035.4	3033.0	3025.5
7.5°	3013.0	3059.1	3086.5	3074.1	3035.4	2986.9	2940.8	2913.4	2887.2	2871.0	2876.0
10°	3069.1	3120.1	3121.4	3066.6	2974.4	2868.5	2777.6	2719.1	2663.0	2638.1	2645.6
12.5°	3150.0	3201.1	3157.5	3039.2	2877.3	2711.6	2544.7	2423.9	2315.5	2289.4	2281.9
15°	3237.2	3277.1	3179.9	2980.6	2737.8	2465.0	2184.7	2004.1	1883.3	1862.1	1854.7
17.5°	3313.2	3335.6	3168.7	2876.0	2517.3	2087.6	1761.2	1639.2	1614.3	1626.7	1626.7
20°	3380.5	3373.0	3120.1	2714.1	2169.8	1669.1	1479.7	1478.5	1512.1	1543.3	1545.8
22.5°	3465.2	3406.6	3042.9	2473.7	1755.0	1392.5	1360.2	1392.5	1429.9	1464.8	1468.5
25°	3566.1	3444.0	2939.5	2131.2	1411.2	1264.3	1278.0	1305.4	1329.0	1356.4	1357.7
27.5°	3667.0	3472.6	2793.8	1728.8	1224.4	1182.0	1197.0	1208.2	1214.4	1231.9	1231.9
30°	3784.0	3495.1	2583.3	1385.1	1138.4	1109.8	1101.1	1096.1	1101.1	1124.7	1126.0
32.5°	3931.0	3534.9	2295.6	1188.3	1098.6	1058.7	1013.9	989.0	1006.4	1048.8	1056.2
35°	4097.9	3582.3	1950.6	1109.8	1084.9	1033.8	951.6	913.0	919.2	957.8	964.1
37.5°	4307.2	3643.3	1610.5	1091.1	1098.6	1031.3	923.0	868.2	840.8	842.0	840.8
40°	4575.0	3704.3	1341.5	1096.1	1128.5	1037.6	909.3	823.3	766.0	768.5	773.5
42.5°	4855.2	3744.2	1170.8	1111.0	1164.6	1046.3	904.3	779.7	729.9	772.3	810.9
45°	5182.8	3733.0	1082.4	1124.7	1192.0	1050.0	885.6	774.7	733.6	860.7	932.9
47.5°	5559.0	3684.4	1032.6	1131.0	1199.5	1048.8	871.9	790.9	764.8	985.2	1067.5
50°	5967.5	3608.4	992.7	1121.0	1195.7	1043.8	886.8	810.9	777.2	1012.6	1076.2
52.5°	6414.7	3538.7	951.6	1098.6	1177.1	1028.8	905.5	802.1	742.4	932.9	981.5
55°	6944.0	3522.5	905.5	1060.0	1145.9	1012.6	895.6	774.7	703.7	827.1	857.0
57.5°	7549.4	3623.4	845.7	1012.6	1103.6	980.3	871.9	759.8	690.0	752.3	768.5
60°	8317.9	3846.3	782.2	962.8	1051.3	931.7	850.7	763.5	693.8	741.1	744.8
62.5°	8918.3	4046.9	724.9	901.8	981.5	873.1	828.3	767.3	705.0	756.1	749.8
65°	9136.2	3948.5	653.9	810.9	883.1	808.4	797.2	769.8	705.0	764.8	751.1
67°	8689.1	3478.9	586.7	719.9	789.7	751.1	767.3	759.8	692.5	763.5	739.9
67.5°	8476.1	3313.2	569.2	705.0	764.8	733.6	759.8	754.8	688.8	761.0	733.6
70°	6990.1	2376.5	480.8	591.6	640.2	646.4	713.7	722.4	658.9	715.0	665.1
72.5°	4973.6	1487.2	414.8	458.4	516.9	553.0	651.4	678.8	619.0	621.5	580.4
75°	2461.2	798.4	369.9	353.7	402.3	460.9	568.0	619.0	560.5	518.2	504.5
77.5°	830.8	452.1	312.6	285.2	312.6	369.9	470.8	540.6	494.5	438.4	429.7
80°	429.7	328.8	244.1	229.2	246.6	286.5	368.7	449.7	422.2	424.7	350.0
82.5°	267.8	200.5	175.6	174.4	186.8	219.2	271.5	365.0	362.5	310.1	225.4
85°	124.6	115.8	112.1	115.8	119.6	124.6	176.9	260.3	275.3	166.9	148.2
87.5°	52.3	51.1	44.8	48.6	53.6	52.3	71.0	110.9	154.5	104.6	95.9
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)