

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: P196821

Luminaire Tested: **NAV-AF-03-D-UNV-T3R-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196821
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-03-D-UNV-T3R-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19547.6 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G3

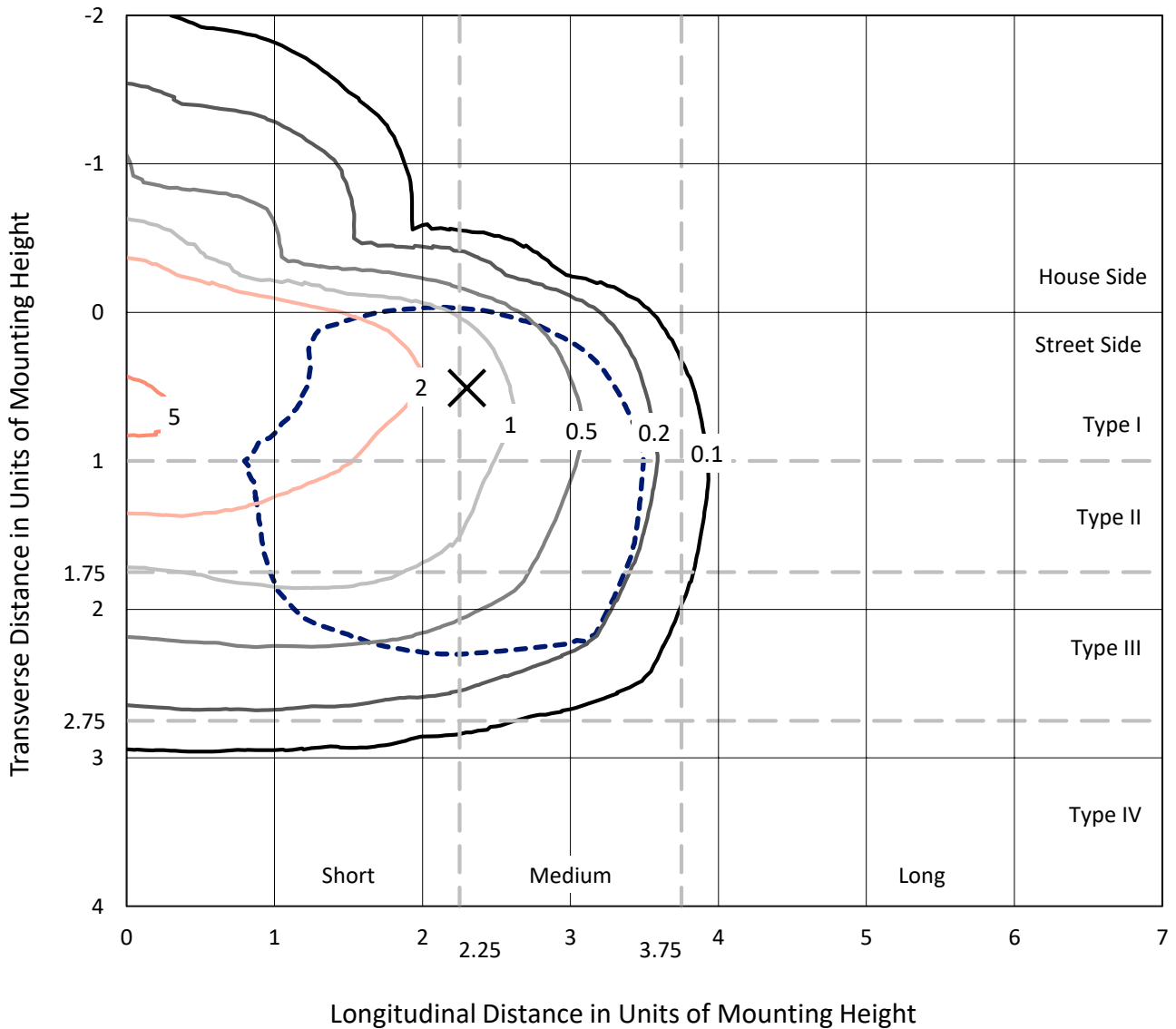
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

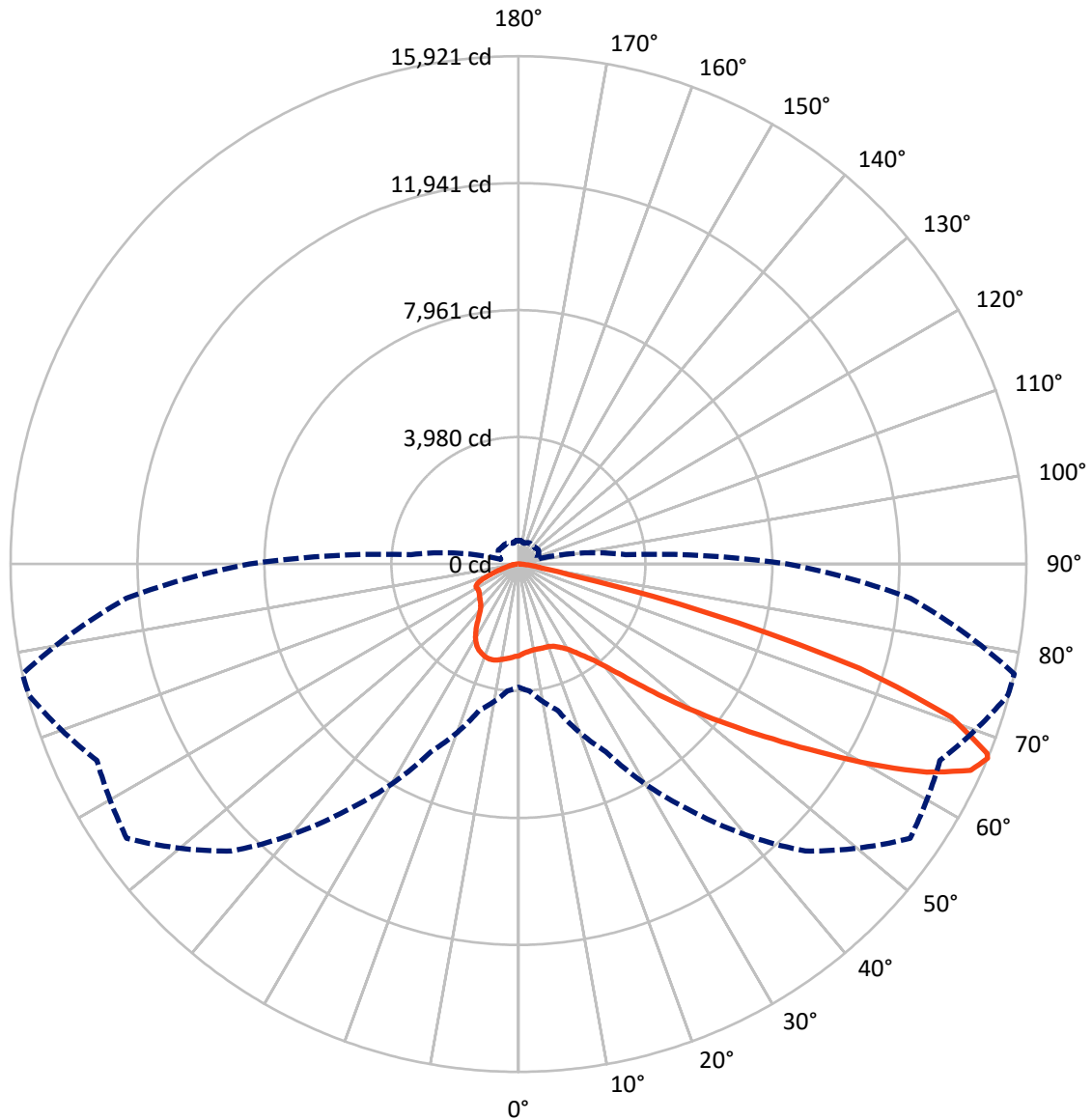
× Max cd
 - - - 1/2 Max cd



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	3359.2	0.0	3359.2
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	16188.3	0.0	16188.3
	% Fixture	82.8	0.0	82.8
Total	Lumens	19547.6	0.0	19547.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.2	1.3
10°-20°	709.6	3.6
20°-30°	1205.7	6.2
30°-40°	1928.8	9.9
40°-50°	2969.4	15.2
50°-60°	4119.7	21.1
60°-70°	5495.4	28.1
70°-80°	2615.2	13.4
80°-90°	247.6	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°	19547.6	100.0
0°-180°	19547.6	100.0



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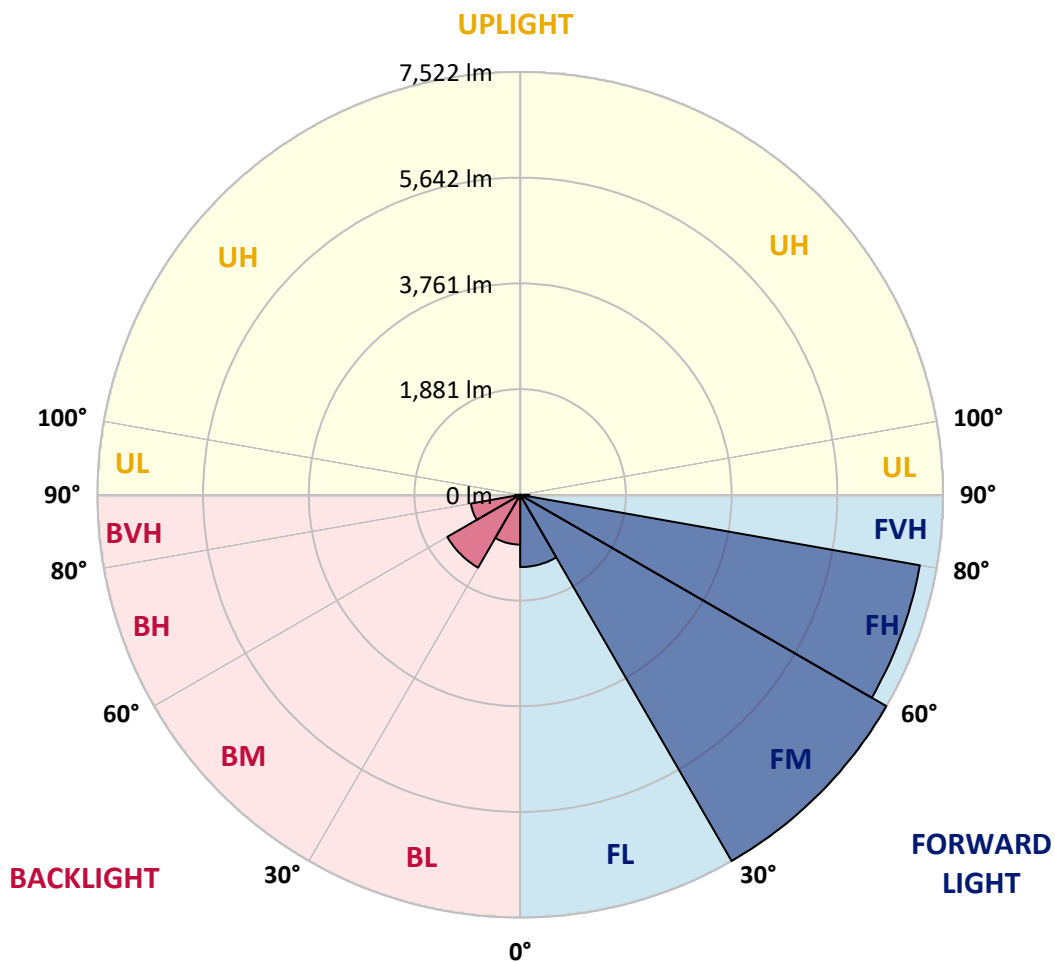
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1285.4	6.6			
FM (30°-60°)	7522.1	38.5			
FH (60°-80°)	7220.0	36.9			G3/7500
FVH (80°-90°)	160.8	0.8			G2/225
BL (0°-30°)	886.0	4.5	B2/1000		
BM (30°-60°)	1495.7	7.7	B2/2500		
BH (60°-80°)	890.7	4.6	B2/1000		G2/1000
BVH (80°-90°)	86.8	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°	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9
2.5°	2579.6	2591.7	2592.9	2628.0	2643.7	2683.5	2727.1	2765.7	2799.5	2811.7	2833.4
5°	2321.1	2321.1	2324.7	2347.7	2392.3	2456.3	2547.1	2646.2	2750.0	2775.4	2839.4
7.5°	2185.7	2188.1	2190.5	2213.6	2248.5	2305.4	2395.9	2531.3	2704.0	2746.4	2858.8
10°	2197.9	2194.3	2182.1	2177.3	2191.8	2228.1	2306.6	2445.5	2665.5	2730.7	2893.8
12.5°	2387.6	2380.3	2340.5	2282.4	2229.2	2216.0	2270.3	2402.1	2647.4	2730.7	2953.1
15°	2712.6	2717.4	2638.8	2518.0	2379.1	2284.8	2277.6	2386.3	2641.3	2737.9	3021.9
17.5°	3135.4	3137.9	3029.1	2854.0	2623.2	2428.7	2327.1	2386.3	2641.3	2745.1	3088.3
20°	3584.9	3568.0	3444.7	3224.9	2925.2	2628.0	2417.8	2400.9	2648.6	2756.1	3151.1
22.5°	3970.4	3954.6	3825.3	3594.6	3251.4	2863.5	2539.7	2449.1	2688.5	2800.8	3239.3
25°	4307.4	4317.2	4191.5	3931.7	3576.5	3129.4	2722.2	2560.3	2771.8	2881.7	3348.1
27.5°	4717.0	4698.9	4553.9	4306.2	3911.2	3404.9	2950.5	2700.5	2870.9	2979.6	3481.0
30°	5190.7	5182.2	4986.5	4731.6	4279.6	3712.9	3176.5	2851.5	3000.2	3113.7	3647.7
32.5°	5765.8	5764.6	5554.4	5241.5	4694.1	4060.9	3443.6	3058.1	3188.6	3303.5	3868.9
35°	6417.2	6415.9	6198.4	5785.2	5171.3	4446.5	3757.8	3309.5	3421.8	3542.6	4132.3
37.5°	6869.0	6861.8	6748.2	6347.1	5699.4	4894.7	4150.4	3647.7	3686.4	3821.8	4450.0
40°	6956.0	6999.4	7097.4	6860.6	6275.8	5392.5	4544.3	4011.5	4047.7	4221.7	4850.0
42.5°	6861.8	6918.6	7243.6	7310.0	6852.0	5995.4	5037.3	4515.2	4561.2	4777.5	5320.1
45°	6779.6	6829.1	7236.4	7558.9	7421.2	6652.7	5652.3	5130.3	5217.3	5485.6	5856.6
47.5°	6639.4	6685.3	7093.7	7603.7	7746.3	7285.9	6393.0	5869.7	6019.6	6344.5	6467.8
50°	6632.1	6652.7	6899.1	7453.7	7858.6	7766.8	7213.4	6734.8	6964.5	7339.1	7144.5
52.5°	6448.5	6592.2	6815.8	7214.6	7860.9	8047.1	8021.7	7683.4	8037.4	8451.9	7886.4
55°	5324.9	5490.4	6538.0	7097.4	7846.5	8287.6	8760.0	8692.3	9245.6	9681.9	8717.7
57.5°	4972.1	5042.1	5735.7	7132.5	7967.3	8685.0	9498.2	9776.1	10627.9	11104.0	9714.5
60°	4875.3	4949.1	5575.0	7149.4	8294.8	9408.8	10499.9	11000.1	12253.1	12758.1	10846.6
62.5°	4767.8	4863.2	5587.1	7165.0	8869.8	10479.3	11829.0	12327.9	13921.7	14372.4	11907.5
65°	4453.7	4580.5	5363.5	7065.9	9499.4	11823.0	13585.8	13712.7	15300.3	15586.7	12547.9
67°	3858.1	3996.9	4749.7	6493.3	9441.4	12727.9	14991.0	14579.0	15886.3	15921.4	12340.1
67.5°	3669.5	3813.2	4541.9	6255.2	9275.9	12846.2	15239.9	14698.6	15881.5	15842.8	12146.7
70°	2470.9	2632.8	3216.4	4592.6	7440.5	11955.8	15179.5	14330.1	14839.9	14396.5	10435.8
72.5°	1226.4	1231.3	1604.6	2515.5	4508.0	8575.1	12662.7	12259.1	12029.6	11192.2	7658.0
75°	590.9	601.7	757.6	1111.6	1900.6	4427.0	8635.6	8271.8	7043.0	6098.1	3832.6
77.5°	450.7	461.5	588.5	723.8	792.6	1443.9	4277.3	3456.9	2040.8	1629.9	1080.2
80°	348.0	368.5	496.6	555.8	524.3	578.7	1344.8	1058.4	793.9	728.5	535.3
82.5°	271.8	284.0	421.6	421.6	362.5	387.9	625.8	611.5	493.0	444.6	287.6
85°	192.1	216.4	339.6	314.1	238.0	240.5	374.5	358.8	253.7	204.2	112.3
87.5°	85.8	110.0	241.7	205.4	126.8	97.9	153.4	131.6	100.3	77.3	52.0
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°	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9	2876.9
2.5°	2857.5	2876.9	2907.1	2925.2	2949.4	2959.1	2968.7	2985.6	2998.9	2995.4	2989.3
5°	2884.1	2916.7	2954.3	2966.3	2966.3	2954.3	2946.9	2948.2	2944.5	2942.2	2934.9
7.5°	2922.8	2967.5	2994.1	2982.0	2944.5	2897.4	2852.8	2826.1	2800.8	2785.0	2789.9
10°	2977.2	3026.7	3027.9	2974.8	2885.3	2782.7	2694.5	2637.6	2583.3	2559.1	2566.4
12.5°	3055.8	3105.2	3063.0	2948.2	2791.1	2630.4	2468.5	2351.3	2246.2	2220.8	2213.6
15°	3140.3	3179.0	3084.7	2891.4	2655.8	2391.1	2119.3	1944.2	1827.0	1806.4	1799.1
17.5°	3214.0	3235.7	3073.8	2789.9	2442.0	2025.0	1708.5	1590.0	1565.9	1578.0	1578.0
20°	3279.2	3272.0	3026.7	2632.8	2104.8	1619.1	1435.4	1434.2	1466.8	1497.1	1499.5
22.5°	3361.4	3304.6	2951.7	2399.7	1702.5	1350.9	1319.5	1350.9	1387.0	1420.9	1424.5
25°	3459.2	3340.8	2851.5	2067.3	1369.0	1226.4	1239.6	1266.4	1289.3	1315.8	1317.0
27.5°	3557.2	3368.7	2710.1	1677.1	1187.7	1146.6	1161.1	1172.1	1178.1	1195.0	1195.0
30°	3670.7	3390.5	2506.0	1343.6	1104.4	1076.5	1068.1	1063.3	1068.1	1091.1	1092.3
32.5°	3813.2	3429.1	2226.8	1152.6	1065.8	1027.0	983.6	959.4	976.2	1017.3	1024.7
35°	3975.2	3475.0	1892.2	1076.5	1052.3	1002.9	923.1	885.6	891.7	929.1	935.1
37.5°	4178.2	3534.2	1562.3	1058.4	1065.8	1000.5	895.4	842.2	815.6	816.8	815.6
40°	4438.0	3593.4	1301.3	1063.3	1094.7	1006.5	882.0	798.6	743.1	745.4	750.3
42.5°	4709.8	3632.1	1135.8	1077.8	1129.7	1014.9	877.3	756.4	708.0	749.1	786.5
45°	5027.6	3621.2	1050.0	1091.1	1156.3	1018.7	859.1	751.6	711.8	835.0	905.0
47.5°	5392.5	3574.1	1001.7	1097.1	1163.6	1017.3	845.7	767.2	741.9	955.7	1035.4
50°	5788.8	3500.3	963.0	1087.4	1159.9	1012.5	860.3	786.5	754.0	982.4	1044.0
52.5°	6222.6	3432.7	923.1	1065.8	1141.9	998.1	878.5	778.2	720.1	905.0	952.0
55°	6736.1	3417.0	878.5	1028.2	1111.6	982.4	868.7	751.6	682.7	802.3	831.3
57.5°	7323.3	3514.9	820.4	982.4	1070.5	950.9	845.7	737.1	669.4	729.8	745.4
60°	8068.8	3731.1	758.8	933.9	1019.8	903.8	825.2	740.7	673.0	718.9	722.5
62.5°	8651.2	3925.6	703.2	874.8	952.0	847.0	803.5	744.3	683.9	733.4	727.3
65°	8862.7	3830.2	634.4	786.5	856.7	784.2	773.3	746.7	683.9	741.9	728.5
67°	8429.0	3374.7	569.1	698.3	766.0	728.5	744.3	737.1	671.8	740.7	717.8
67.5°	8222.3	3214.0	552.2	683.9	741.9	711.8	737.1	732.2	668.1	738.3	711.8
70°	6780.8	2305.4	466.4	573.9	621.0	627.0	692.3	700.8	639.1	693.6	645.1
72.5°	4824.7	1442.7	402.4	444.6	501.4	536.5	631.9	658.5	600.5	602.9	563.0
75°	2387.6	774.5	358.8	343.2	390.3	447.1	551.0	600.5	543.7	502.6	489.4
77.5°	805.9	438.5	303.3	276.7	303.3	358.8	456.7	524.3	479.6	425.3	416.9
80°	416.9	319.0	236.9	222.4	239.3	277.9	357.6	436.2	409.6	412.0	339.6
82.5°	259.8	194.5	170.3	169.2	181.3	212.6	263.5	354.0	351.6	300.9	218.7
85°	120.8	112.3	108.7	112.3	116.1	120.8	171.5	252.5	267.0	161.9	143.7
87.5°	50.7	49.5	43.4	47.1	52.0	50.7	68.9	107.5	149.8	101.5	93.1
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)