

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: P195357

Luminaire Tested: **NAV-AF-03-D-UNV-T3-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195357
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19877 lumens
Efficiency: N/A
Efficacy: 104.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - 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

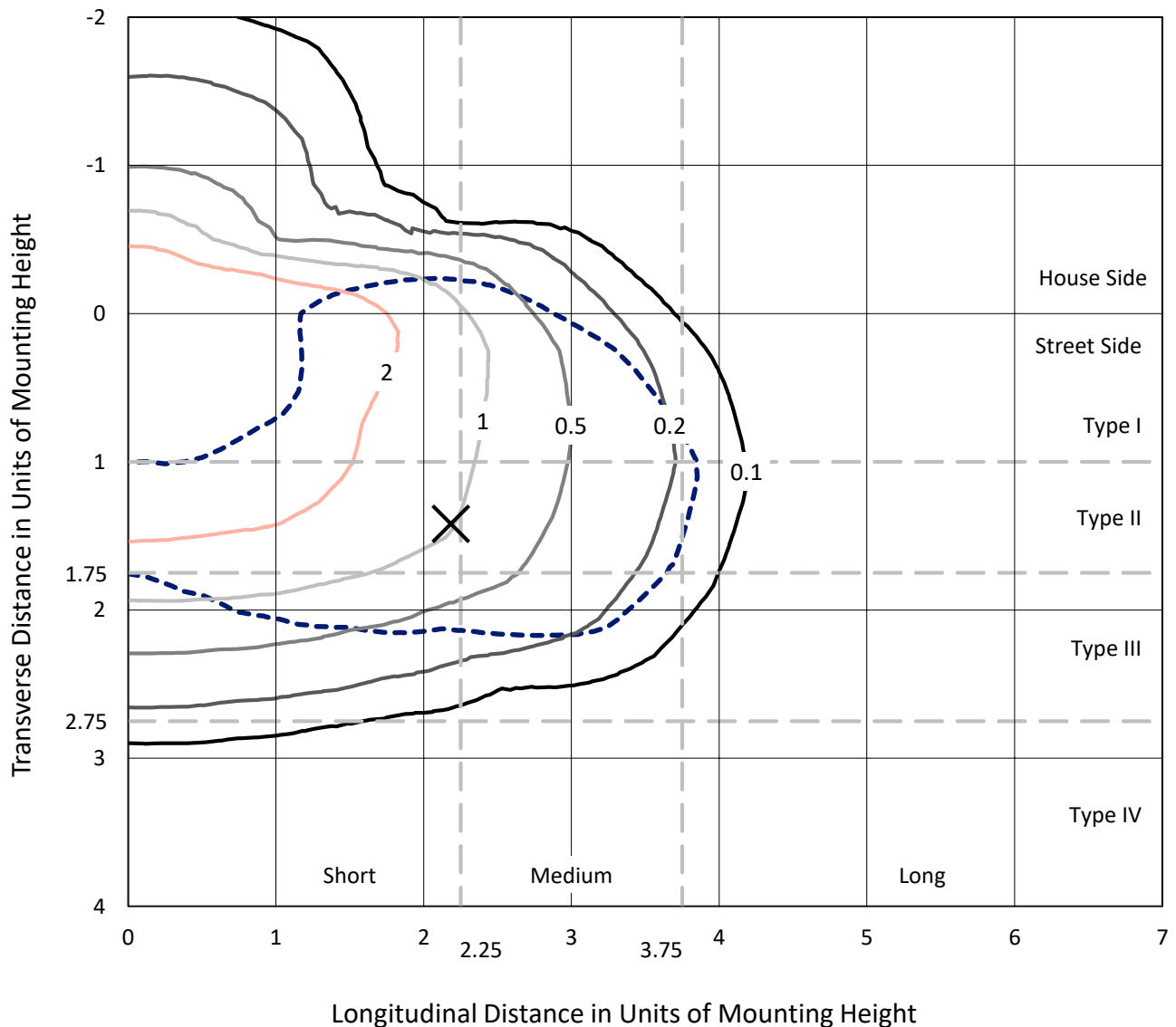


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Iso-Footcandle Lines of Horizontal Illumination

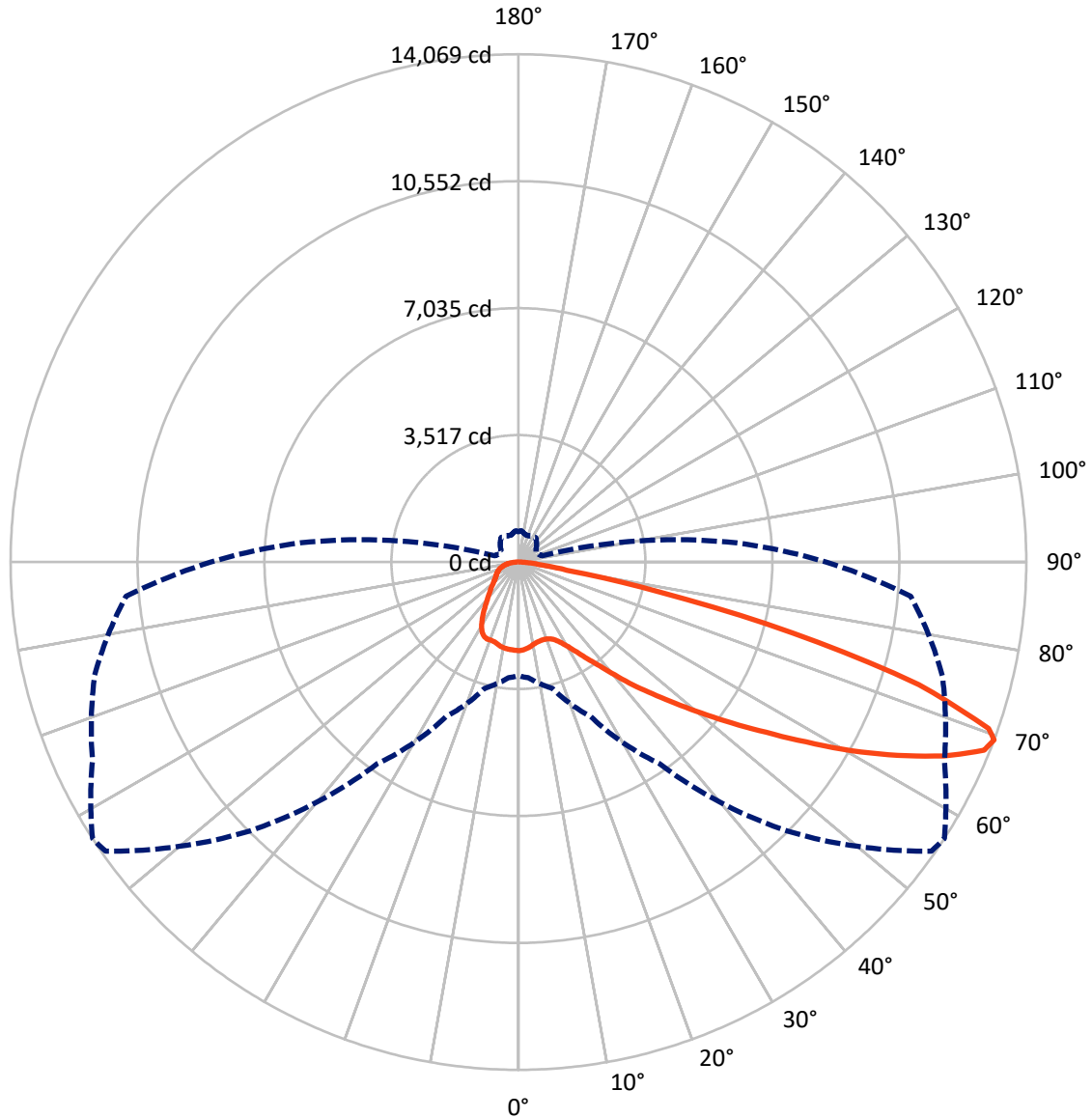
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4386.2	0.0	4386.2
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	15490.8	0.0	15490.8
	% Fixture	77.9	0.0	77.9
Total	Lumens	19877.0	0.0	19877.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	229.9	1.2
10°-20°	653.8	3.3
20°-30°	1087.5	5.5
30°-40°	1775.9	8.9
40°-50°	2997.3	15.1
50°-60°	4662.4	23.5
60°-70°	5553.9	27.9
70°-80°	2587.4	13.0
80°-90°	329.1	1.7
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°	19877.0	100.0
0°-180°	19877.0	100.0



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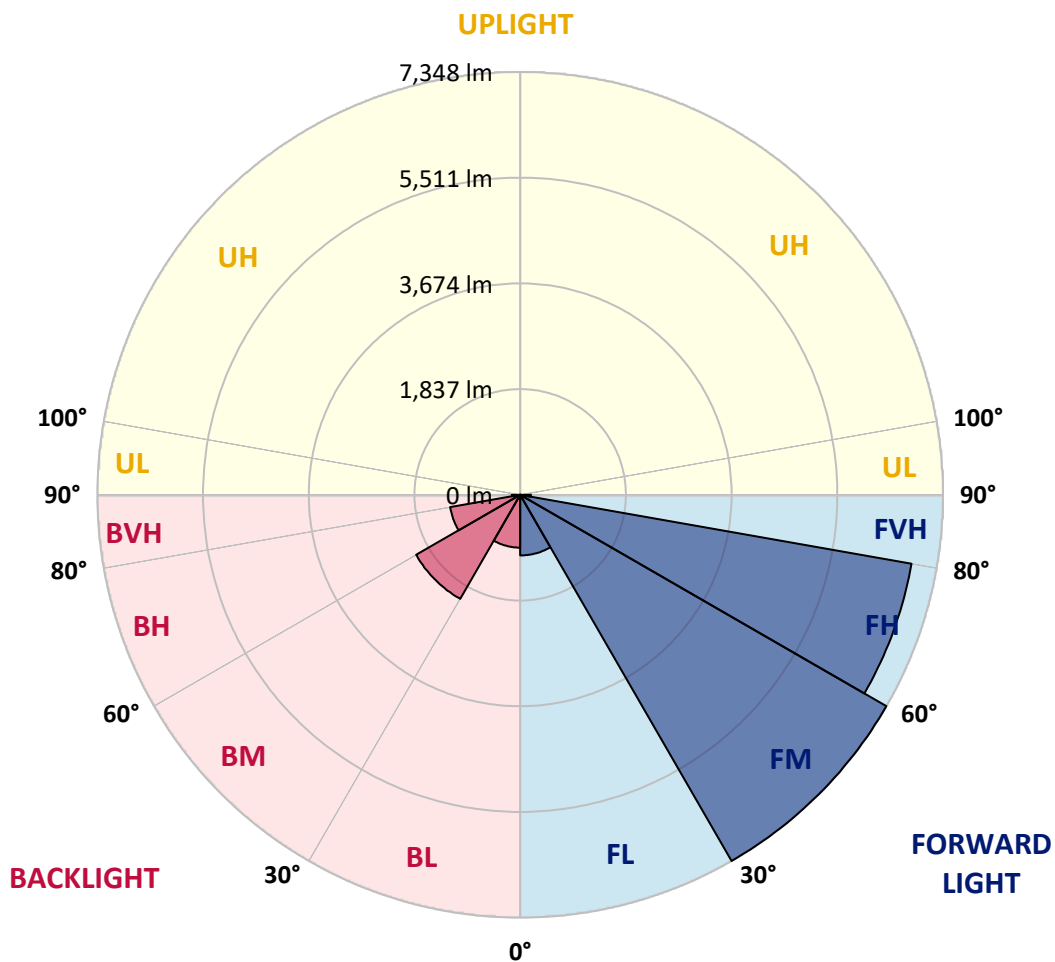
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1052.6	5.3			
FM	(30°-60°)	7347.9	37.0			
FH	(60°-80°)	6905.3	34.7			G3/7500
FVH	(80°-90°)	185.0	0.9			G2/225
BL	(0°-30°)	918.5	4.6	B2/1000		
BM	(30°-60°)	2087.6	10.5	B2/2500		
BH	(60°-80°)	1236.0	6.2	B3/2500		G3/2500
BVH	(80°-90°)	144.1	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0
2.5°	2442.0	2442.0	2448.4	2448.4	2448.4	2445.8	2438.2	2440.7	2435.6	2431.8	2425.5
5°	2392.4	2394.9	2402.6	2405.1	2408.9	2410.2	2410.2	2408.9	2410.2	2410.2	2406.4
7.5°	2323.7	2326.2	2335.1	2340.2	2351.6	2361.8	2366.9	2366.9	2373.3	2378.4	2379.6
10°	2281.7	2281.7	2286.7	2286.7	2295.7	2300.7	2317.3	2316.0	2333.8	2350.4	2358.0
12.5°	2276.6	2276.6	2274.0	2265.1	2260.0	2258.8	2275.3	2277.8	2304.6	2333.8	2347.8
15°	2293.1	2293.1	2285.5	2267.7	2248.6	2239.7	2256.2	2261.3	2290.6	2324.9	2346.6
17.5°	2346.6	2345.3	2328.7	2293.1	2260.0	2246.0	2251.1	2256.2	2282.9	2322.4	2349.1
20°	2464.9	2464.9	2429.3	2364.4	2307.1	2274.0	2266.4	2270.2	2289.3	2326.2	2360.6
22.5°	2672.3	2676.1	2612.5	2505.6	2407.6	2337.7	2307.1	2310.9	2319.8	2355.5	2393.6
25°	2977.7	2967.6	2877.2	2725.8	2573.1	2453.5	2391.1	2394.9	2394.9	2428.0	2467.5
27.5°	3301.0	3303.5	3173.7	3010.8	2809.8	2631.6	2532.3	2531.1	2529.8	2561.6	2603.6
30°	3666.2	3667.5	3517.3	3329.0	3098.6	2870.8	2722.0	2720.7	2709.2	2748.7	2803.4
32.5°	4065.8	4064.5	3890.1	3677.6	3421.9	3163.5	2970.1	2968.8	2959.9	3013.4	3079.5
35°	4508.6	4508.6	4335.5	4073.4	3797.3	3509.7	3285.7	3284.4	3289.5	3362.0	3424.4
37.5°	5041.8	5053.2	4844.5	4526.4	4224.8	3918.1	3657.3	3649.6	3611.5	3733.6	3836.7
40°	5597.9	5629.7	5413.4	5041.8	4716.0	4399.2	4111.6	4106.5	4073.4	4203.2	4369.9
42.5°	6199.8	6272.3	6031.8	5652.6	5297.6	4955.3	4666.4	4652.4	4525.1	4727.5	4988.3
45°	6988.8	7035.9	6687.2	6343.6	6008.9	5618.3	5274.7	5199.6	5072.3	5331.9	5670.4
47.5°	7525.8	7502.9	7285.3	7054.9	6839.9	6465.8	5937.7	5842.2	5687.0	6030.6	6403.4
50°	7859.2	7875.7	7753.6	7742.1	7730.7	7469.8	6685.9	6571.4	6392.0	6799.2	7234.4
52.5°	8079.3	8004.3	8025.9	8285.5	8599.8	8475.1	7532.1	7404.9	7220.4	7627.6	8118.8
55°	7987.7	7888.5	8088.2	8599.8	9339.2	9367.1	8461.1	8330.0	8172.2	8508.2	9182.6
57.5°	7608.5	7658.1	7973.7	8685.1	9844.3	10166.3	9528.8	9395.1	9084.6	9425.7	10193.0
60°	7075.3	7175.8	7658.1	8550.2	10198.1	10788.6	10700.8	10611.7	10077.2	10319.0	11254.3
62.5°	6502.7	6601.9	7194.9	8319.8	10039.0	11339.6	11851.1	11796.4	11172.9	11179.2	11927.5
65°	5656.4	5697.1	6302.9	7691.2	9597.5	11837.1	13002.8	12954.4	12220.2	11913.5	12115.8
67.5°	4271.9	4322.8	4820.4	6071.3	8253.7	11567.4	13922.8	13915.2	12850.1	12185.8	11667.9
69°	3154.6	3217.0	3622.9	4713.5	6824.6	10539.2	13966.1	14069.2	13020.6	12157.8	10910.7
70°	2308.4	2379.6	2755.0	3741.3	5684.4	9404.1	13595.8	13817.2	12955.7	11980.9	10320.3
72.5°	981.1	1005.3	1189.8	1688.7	2883.6	5670.4	11136.0	11601.7	11701.0	10735.1	8062.8
75°	614.6	622.3	694.8	866.6	1282.7	2345.3	7211.5	7846.5	8736.0	8328.8	5398.1
77.5°	463.2	469.6	511.6	596.8	796.6	875.5	3345.5	3989.4	5003.6	4899.3	2686.3
80°	355.0	358.9	386.9	433.9	561.2	548.5	1085.5	1364.2	2088.2	1842.6	950.6
82.5°	278.7	280.0	304.1	313.0	391.9	369.0	544.6	607.0	843.7	701.2	464.5
85°	246.9	250.7	274.9	229.1	250.7	222.7	299.0	324.5	447.9	422.5	175.6
87.5°	126.0	132.3	230.3	196.0	126.0	105.6	131.1	141.3	182.0	197.2	85.3
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°	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0	2456.0
2.5°	2426.7	2428.0	2431.8	2438.2	2448.4	2461.1	2476.4	2491.6	2500.5	2506.9	2504.4
5°	2406.4	2407.6	2415.3	2426.7	2439.5	2458.5	2484.0	2503.1	2517.1	2526.0	2524.7
7.5°	2380.9	2384.7	2400.0	2412.7	2430.5	2445.8	2466.2	2484.0	2498.0	2506.9	2505.6
10°	2361.8	2365.6	2384.7	2401.3	2416.5	2419.1	2415.3	2410.2	2408.9	2415.3	2412.7
12.5°	2352.9	2360.6	2378.4	2389.8	2383.5	2359.3	2331.3	2319.8	2316.0	2328.7	2330.0
15°	2355.5	2361.8	2377.1	2369.5	2335.1	2294.4	2279.1	2288.0	2295.7	2303.3	2304.6
17.5°	2361.8	2365.6	2369.5	2341.5	2293.1	2266.4	2261.3	2252.4	2229.5	2216.8	2215.5
20°	2373.3	2378.4	2372.0	2327.5	2284.2	2248.6	2187.5	2132.8	2080.6	2052.6	2041.1
22.5°	2412.7	2416.5	2397.5	2354.2	2288.0	2172.2	2048.8	1954.6	1874.4	1831.2	1814.6
25°	2490.4	2496.7	2470.0	2415.3	2242.2	2039.9	1865.5	1738.3	1637.8	1585.6	1571.6
27.5°	2626.5	2632.9	2603.6	2461.1	2135.3	1863.0	1651.8	1525.8	1439.2	1394.7	1388.3
30°	2830.1	2839.0	2812.3	2459.8	1972.4	1637.8	1443.1	1369.3	1319.6	1289.1	1287.8
32.5°	3112.6	3145.7	3036.3	2416.5	1771.4	1410.0	1285.3	1259.8	1235.6	1215.3	1215.3
35°	3471.5	3549.1	3257.7	2326.2	1550.0	1254.7	1197.5	1173.3	1142.7	1121.1	1118.6
37.5°	3900.3	4021.2	3415.5	2165.9	1359.1	1179.6	1144.0	1104.6	1056.2	1014.2	1004.0
40°	4489.5	4517.5	3493.1	1905.0	1216.5	1138.9	1094.4	1044.8	983.7	936.6	931.5
42.5°	5081.2	4989.6	3477.8	1625.0	1135.1	1102.0	1043.5	988.8	934.0	894.6	894.6
45°	5754.4	5401.9	3362.0	1343.8	1061.3	1060.0	996.4	944.2	902.2	873.0	866.6
47.5°	6398.3	5772.2	3162.3	1136.4	984.9	1018.0	965.9	923.9	885.7	857.7	852.6
50°	7179.7	6201.1	2949.7	991.3	911.1	981.1	953.1	931.5	894.6	846.2	841.1
52.5°	7955.9	6702.5	2785.6	881.9	846.2	951.9	960.8	963.3	929.0	834.8	828.4
55°	8789.4	7238.2	2612.5	796.6	792.8	937.9	978.6	976.0	959.5	837.3	827.1
57.5°	9582.2	7776.5	2354.2	736.8	750.8	923.9	982.4	941.7	912.4	850.1	833.5
60°	10238.8	8221.9	1975.0	694.8	715.2	895.9	956.9	895.9	846.2	847.5	832.2
62.5°	10558.2	8346.6	1510.5	646.4	685.9	850.1	920.0	861.5	815.7	852.6	843.7
65°	10315.2	7991.5	1076.6	601.9	650.3	796.6	898.4	832.2	800.4	878.1	867.9
67.5°	9442.2	7024.4	781.3	562.5	615.9	741.9	857.7	805.5	785.2	897.1	874.2
69°	8514.5	6064.9	677.0	539.6	591.7	712.6	831.0	791.5	773.7	870.4	837.3
70°	7743.4	5325.6	624.8	525.6	571.4	696.1	810.6	782.6	762.2	838.6	799.2
72.5°	5552.1	3442.2	525.6	483.6	517.9	659.2	766.1	749.5	719.0	757.2	731.7
75°	3354.4	1796.8	446.7	440.3	461.9	608.3	713.9	693.5	663.0	666.8	654.1
77.5°	1541.0	829.7	374.1	389.4	403.4	544.6	650.3	627.4	599.4	589.2	590.5
80°	675.7	484.8	313.0	332.1	339.8	489.9	581.5	556.1	525.6	580.3	538.3
82.5°	365.2	281.2	244.3	257.1	278.7	426.3	505.2	472.1	442.8	515.4	416.1
85°	147.6	143.8	165.4	178.2	193.4	306.7	422.5	388.1	352.5	315.6	308.0
87.5°	63.6	68.7	81.4	86.5	103.1	190.9	283.8	248.1	249.4	213.8	210.0
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)