

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: P195909

Luminaire Tested: **NAV-AF-03-D-UNV-T4W-7050-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195909  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)  
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-T4W-7050-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 19636 lumens  
Efficiency: N/A  
Efficacy: 102.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G4

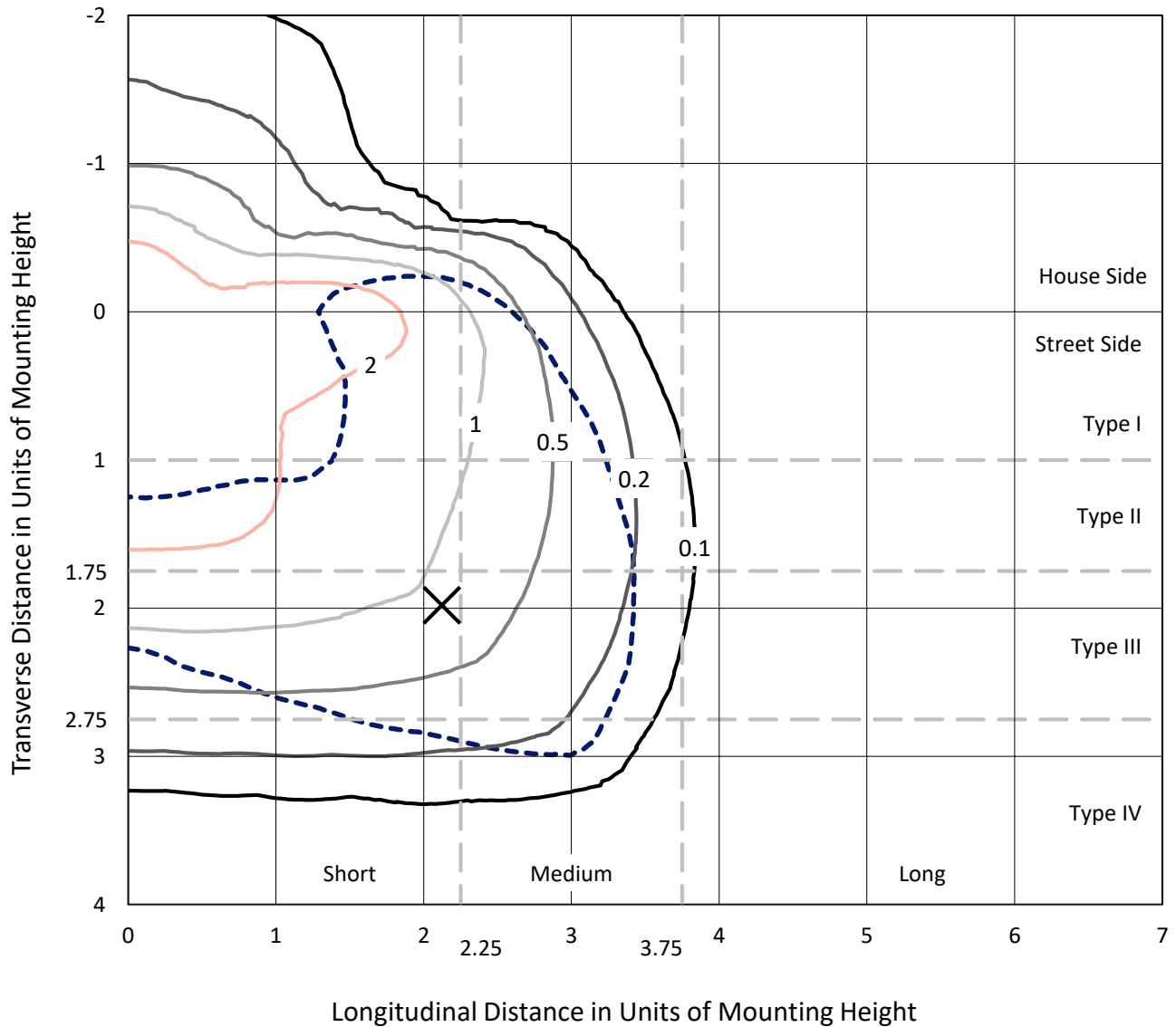
Input Watts (W): 191  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

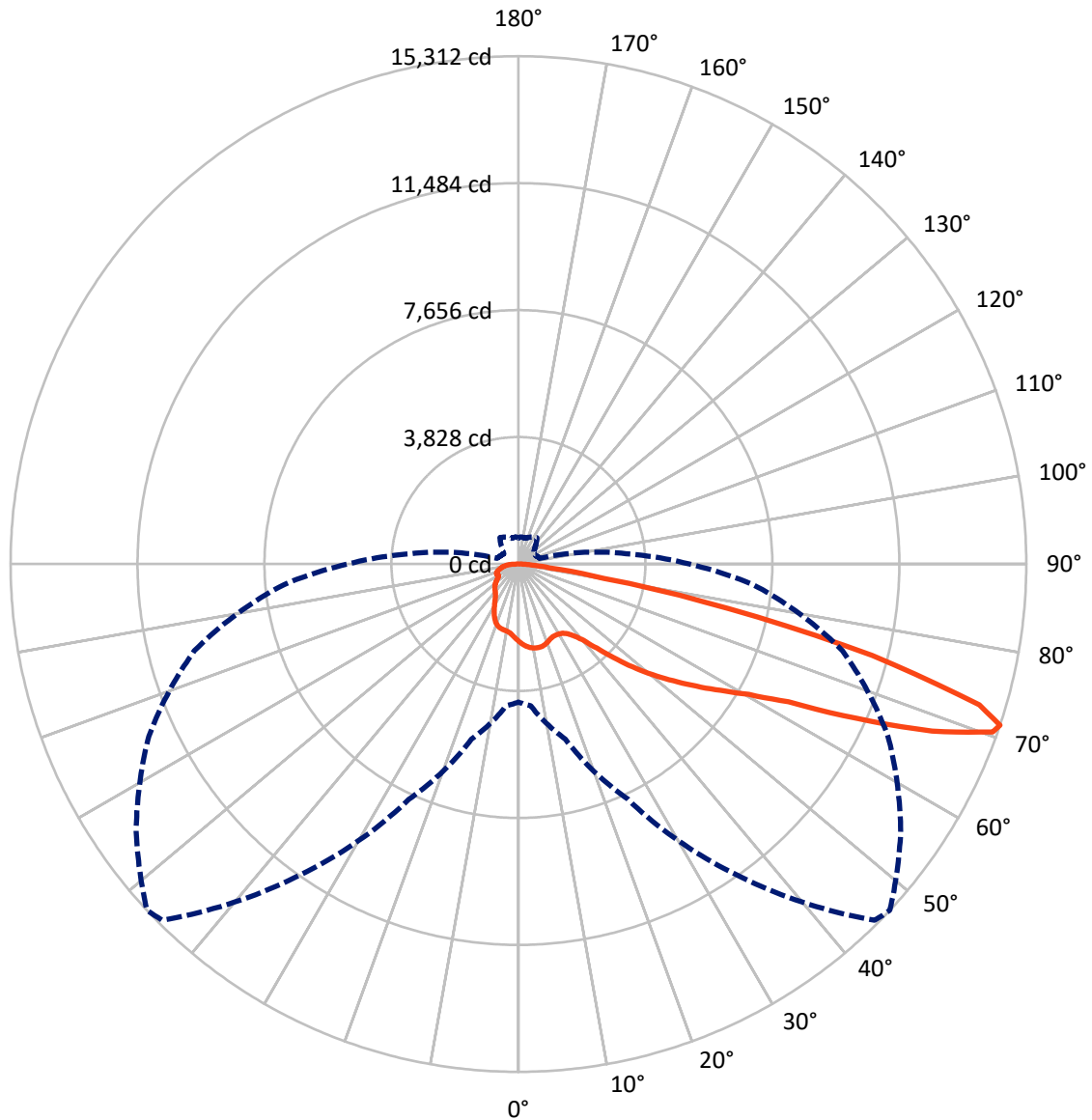
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral    - - - Horizontal Cone Through 71-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4208.3	0.0	4208.3
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	15427.7	0.0	15427.7
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	19636.0	0.0	19636.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	222.9	1.1
10°-20°	652.3	3.3
20°-30°	969.2	4.9
30°-40°	1391.7	7.1
40°-50°	2467.5	12.6
50°-60°	4222.2	21.5
60°-70°	5994.0	30.5
70°-80°	3282.9	16.7
80°-90°	433.4	2.2
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°	19636.0	100.0
0°-180°	19636.0	100.0



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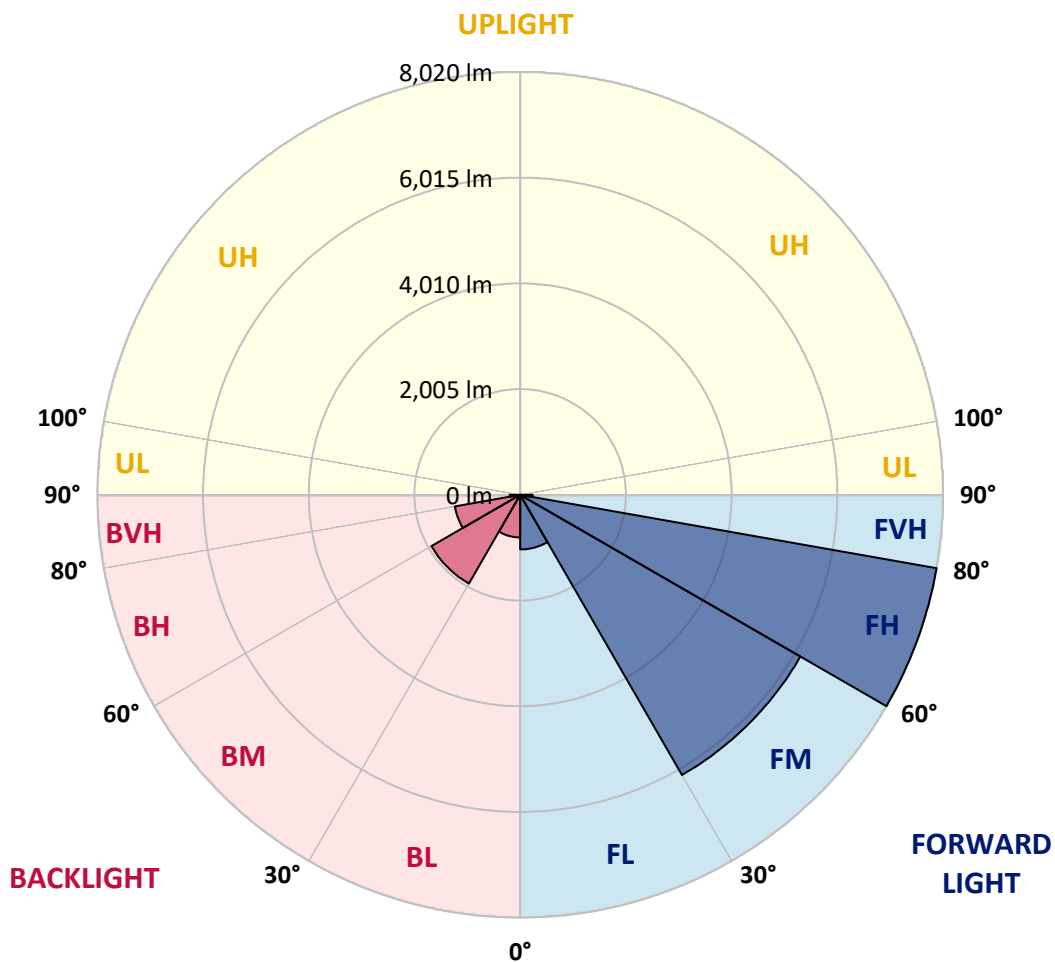
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1036.3	5.3			
FM	(30°-60°)	6136.8	31.3			
FH	(60°-80°)	8019.5	40.8			G4/12000
FVH	(80°-90°)	235.0	1.2			G3/500
BL	(0°-30°)	808.1	4.1	B2/1000		
BM	(30°-60°)	1944.5	9.9	B2/2500		
BH	(60°-80°)	1257.4	6.4	B3/2500		G3/2500
BVH	(80°-90°)	198.3	1.0			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G4**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0
2.5°	2477.6	2472.5	2475.0	2466.1	2444.5	2421.6	2421.6	2397.4	2372.0	2346.5	2318.5
5°	2631.5	2623.9	2617.5	2589.6	2547.6	2500.5	2492.8	2444.5	2392.3	2340.1	2289.2
7.5°	2760.1	2752.4	2733.3	2682.4	2621.4	2551.4	2542.5	2478.8	2410.1	2337.6	2266.3
10°	2851.7	2846.6	2809.7	2744.8	2673.5	2590.8	2575.6	2510.7	2429.2	2338.9	2248.5
12.5°	2902.6	2895.0	2850.4	2774.1	2690.1	2606.1	2590.8	2528.5	2435.6	2336.3	2230.7
15°	2882.2	2878.4	2836.4	2758.8	2674.8	2602.3	2589.6	2525.9	2431.8	2327.4	2214.2
17.5°	2795.7	2804.6	2771.5	2695.2	2626.5	2575.6	2561.6	2501.7	2412.7	2305.8	2188.7
20°	2676.1	2686.3	2669.7	2592.1	2552.6	2519.6	2511.9	2463.6	2380.9	2274.0	2158.2
22.5°	2548.8	2557.7	2559.0	2486.5	2473.8	2461.0	2454.7	2420.3	2352.9	2254.9	2137.8
25°	2461.0	2471.2	2473.8	2410.1	2417.8	2421.6	2420.3	2396.1	2347.8	2254.9	2140.4
27.5°	2438.1	2443.2	2440.7	2382.1	2396.1	2417.8	2419.0	2413.9	2368.1	2280.3	2176.0
30°	2517.0	2519.6	2487.8	2399.9	2413.9	2441.9	2443.2	2440.7	2411.4	2346.5	2256.2
32.5°	2858.0	2855.5	2746.1	2519.6	2471.2	2481.4	2485.2	2508.1	2510.7	2455.9	2372.0
35°	3377.2	3376.0	3248.7	2861.9	2634.1	2580.6	2585.7	2621.4	2653.2	2616.3	2567.9
37.5°	3948.6	3952.4	3874.8	3350.5	2985.3	2762.6	2757.5	2784.2	2841.5	2854.2	2860.6
40°	4582.3	4601.4	4597.6	3911.7	3477.8	3073.1	3022.2	2991.7	3102.4	3172.4	3262.7
42.5°	5306.4	5301.3	5303.8	4527.6	4040.2	3561.7	3467.6	3325.1	3453.6	3574.5	3773.0
45°	5928.6	5949.0	5964.2	5182.9	4670.1	4120.4	4024.9	3765.3	3881.1	4061.8	4364.7
47.5°	6554.7	6519.1	6547.0	5912.1	5371.2	4757.9	4634.5	4284.5	4392.7	4647.2	5107.8
50°	7283.8	7267.3	7140.0	6863.9	6218.7	5404.3	5242.7	4826.6	4984.4	5324.2	6025.3
52.5°	7937.9	7848.8	7749.6	7612.1	7052.2	6058.4	5853.5	5390.3	5680.5	6101.7	7164.2
55°	8177.1	8117.3	8236.9	8415.1	7934.1	6725.2	6496.1	6048.2	6465.6	6991.2	8504.2
57.5°	8431.6	8452.0	8721.8	9081.9	8768.8	7436.5	7188.4	6827.0	7327.1	7986.3	10001.9
60°	8558.9	8640.3	9178.6	9854.3	9562.9	8216.6	7978.6	7721.6	8282.7	9085.7	11495.8
62.5°	8580.5	8689.9	9452.2	10125.3	10656.0	9411.5	9136.6	8857.9	9476.4	10300.9	12577.5
65°	8183.5	8351.5	9428.0	10458.7	11652.3	11408.0	11233.7	10747.6	11074.6	11371.1	12762.0
67.5°	7016.6	7199.8	8495.3	10321.3	12451.5	13479.7	13446.6	12728.9	12309.0	11784.7	11394.0
70°	5149.8	5297.4	6542.0	8823.6	12102.8	15105.9	15164.5	14012.8	12653.8	10906.7	8472.3
71°	4164.9	4292.2	5465.4	7833.5	11423.3	15189.9	15312.1	14070.1	12295.0	10113.9	7093.0
72.5°	2592.1	2663.4	3629.2	5912.1	9836.5	14324.6	14530.8	13337.1	11165.0	8548.7	5013.7
75°	978.6	1006.6	1346.3	2607.4	5871.3	10761.6	11011.0	10079.5	7843.7	4880.1	2098.4
77.5°	525.5	539.5	668.1	1084.2	2352.9	6169.1	6489.8	5749.2	3762.8	1707.7	857.7
80°	352.5	361.4	461.9	642.6	1081.6	2349.0	2616.3	2308.3	1408.7	974.7	610.8
82.5°	227.8	232.9	314.3	422.5	698.6	825.9	942.9	984.9	879.3	698.6	369.0
85°	150.2	154.0	207.4	269.8	432.7	407.2	417.4	545.9	599.4	460.6	188.3
87.5°	86.5	89.1	124.7	138.7	194.7	152.7	165.4	259.6	356.3	300.3	108.2
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°	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0	2335.0
2.5°	2305.8	2295.6	2272.7	2258.7	2252.3	2249.8	2247.2	2252.3	2252.3	2249.8	2244.7
5°	2263.8	2244.7	2206.5	2179.8	2165.8	2162.0	2167.1	2173.4	2177.3	2177.3	2173.4
7.5°	2233.2	2205.3	2154.4	2117.5	2095.8	2089.5	2103.5	2126.4	2141.6	2149.3	2150.5
10°	2207.8	2169.6	2113.6	2075.5	2057.6	2055.1	2072.9	2102.2	2134.0	2148.0	2150.5
12.5°	2184.9	2141.6	2080.5	2044.9	2032.2	2038.6	2062.7	2089.5	2126.4	2146.7	2148.0
15°	2163.3	2118.7	2053.8	2016.9	2014.4	2024.6	2047.5	2069.1	2097.1	2122.5	2122.5
17.5°	2137.8	2089.5	2022.0	1987.7	1987.7	1996.6	2011.8	2023.3	2041.1	2065.3	2064.0
20°	2107.3	2057.6	1988.9	1953.3	1945.7	1940.6	1940.6	1943.1	1958.4	1980.0	1983.8
22.5°	2084.4	2033.5	1960.9	1917.7	1883.3	1850.2	1836.2	1831.1	1845.1	1865.5	1870.6
25°	2084.4	2033.5	1952.0	1879.5	1795.5	1731.9	1705.2	1697.5	1711.5	1730.6	1738.2
27.5°	2118.7	2067.8	1972.4	1845.1	1691.2	1589.4	1557.5	1551.2	1563.9	1579.2	1586.8
30°	2198.9	2149.3	2030.9	1805.7	1575.4	1441.7	1406.1	1399.8	1406.1	1412.5	1421.4
32.5°	2332.5	2290.5	2126.4	1770.1	1458.3	1308.1	1264.9	1254.7	1257.2	1258.5	1266.1
35°	2550.1	2531.0	2253.6	1728.1	1347.6	1198.7	1154.2	1133.8	1132.5	1138.9	1147.8
37.5°	2883.5	2895.0	2417.8	1667.0	1256.0	1121.1	1076.5	1056.2	1046.0	1058.7	1068.9
40°	3354.3	3381.0	2607.4	1584.3	1180.9	1075.3	1028.2	1009.1	995.1	991.3	996.4
42.5°	3966.4	3958.8	2800.8	1478.7	1099.4	1044.7	995.1	974.7	951.8	922.6	916.2
45°	4691.7	4582.3	2962.4	1348.9	1006.6	1015.5	964.6	936.6	900.9	857.7	852.6
47.5°	5548.1	5246.5	3061.7	1210.2	920.0	977.3	930.2	886.9	834.8	806.8	803.0
50°	6580.1	6024.0	3131.6	1068.9	842.4	928.9	881.8	824.6	773.7	766.0	764.8
52.5°	7801.7	6941.5	3218.2	941.7	781.3	866.6	833.5	775.0	734.2	738.1	738.1
55°	9101.0	7890.8	3220.7	841.1	727.9	794.0	797.9	750.8	719.0	731.7	735.5
57.5°	10285.7	8720.5	2967.5	769.9	677.0	736.8	786.4	759.7	735.5	780.0	783.9
60°	11318.9	9359.3	2422.9	711.3	635.0	715.1	811.9	814.4	809.3	930.2	939.1
62.5°	11696.9	9365.6	1720.4	661.7	612.1	727.9	865.3	869.1	869.1	981.1	997.6
65°	11167.5	8585.6	1145.3	632.4	596.8	755.9	908.6	892.0	852.6	930.2	912.4
67.5°	9302.0	6683.2	837.3	613.3	575.2	757.1	946.7	904.8	837.3	903.5	872.9
70°	6393.1	4252.7	701.2	595.5	549.7	724.1	967.1	900.9	814.4	842.4	801.7
71°	5146.0	3393.8	665.5	589.2	539.5	705.0	969.6	895.8	803.0	820.8	783.9
72.5°	3390.0	2090.7	622.3	575.2	524.3	671.9	963.3	884.4	787.7	789.0	764.8
75°	1337.4	866.6	559.9	543.4	481.0	618.4	935.3	860.2	758.4	733.0	722.8
77.5°	675.7	566.3	492.5	498.8	430.1	563.7	895.8	820.8	717.7	683.3	675.7
80°	493.7	430.1	421.2	432.7	372.8	510.3	846.2	767.3	665.5	701.2	685.9
82.5°	300.3	262.1	329.6	357.6	311.8	455.6	787.7	705.0	599.4	552.3	534.5
85°	142.5	154.0	238.0	263.4	230.3	363.9	720.2	636.3	523.0	451.7	459.4
87.5°	70.0	85.3	136.2	157.8	151.4	267.2	543.4	493.7	412.3	339.8	332.1
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)