

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: P197339

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197339
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-05-D-UNV-T4W-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19591 lumens
Efficiency: N/A
Efficacy: 93.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 210
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

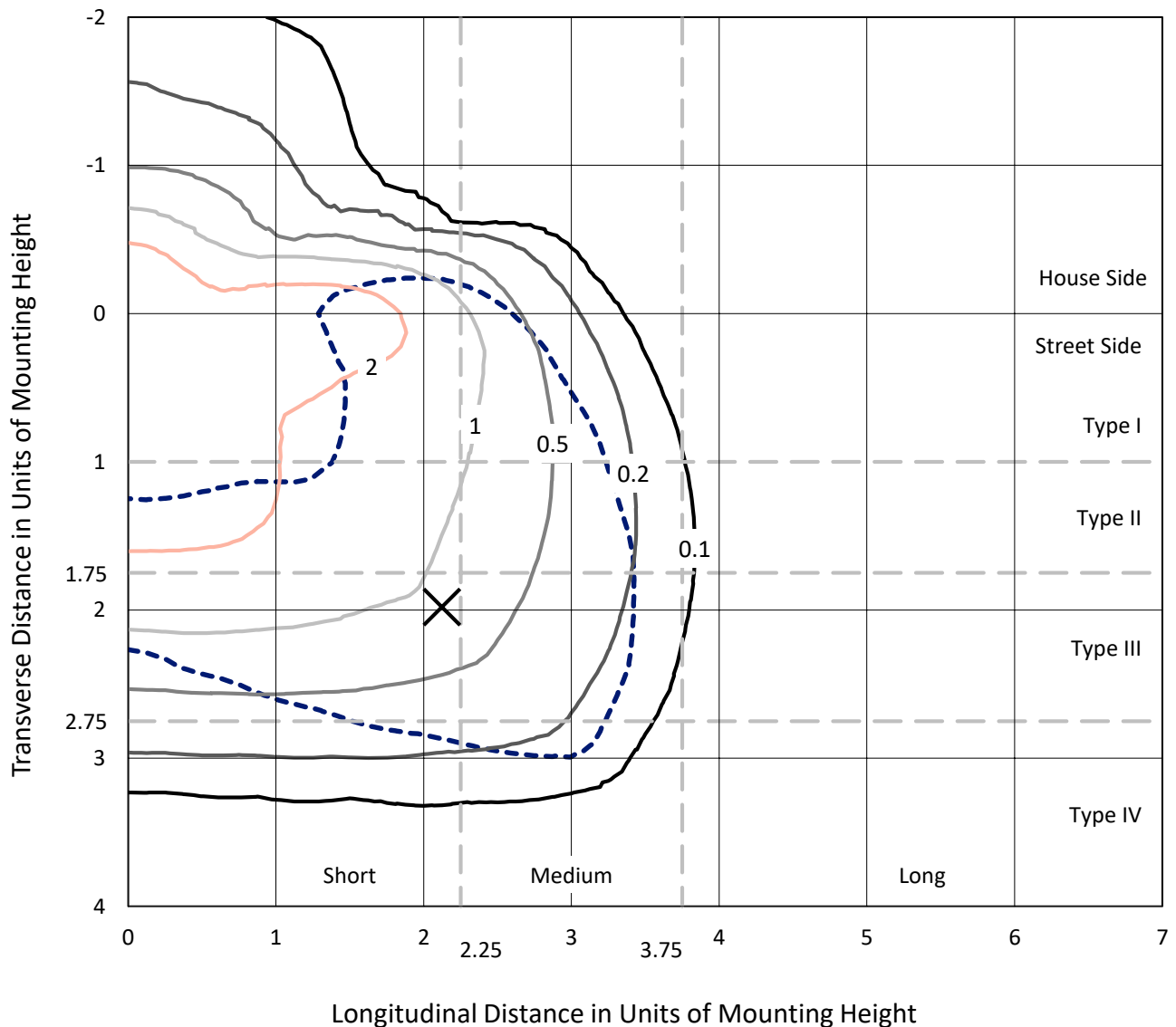


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Iso-Footcandle Lines of Horizontal Illumination

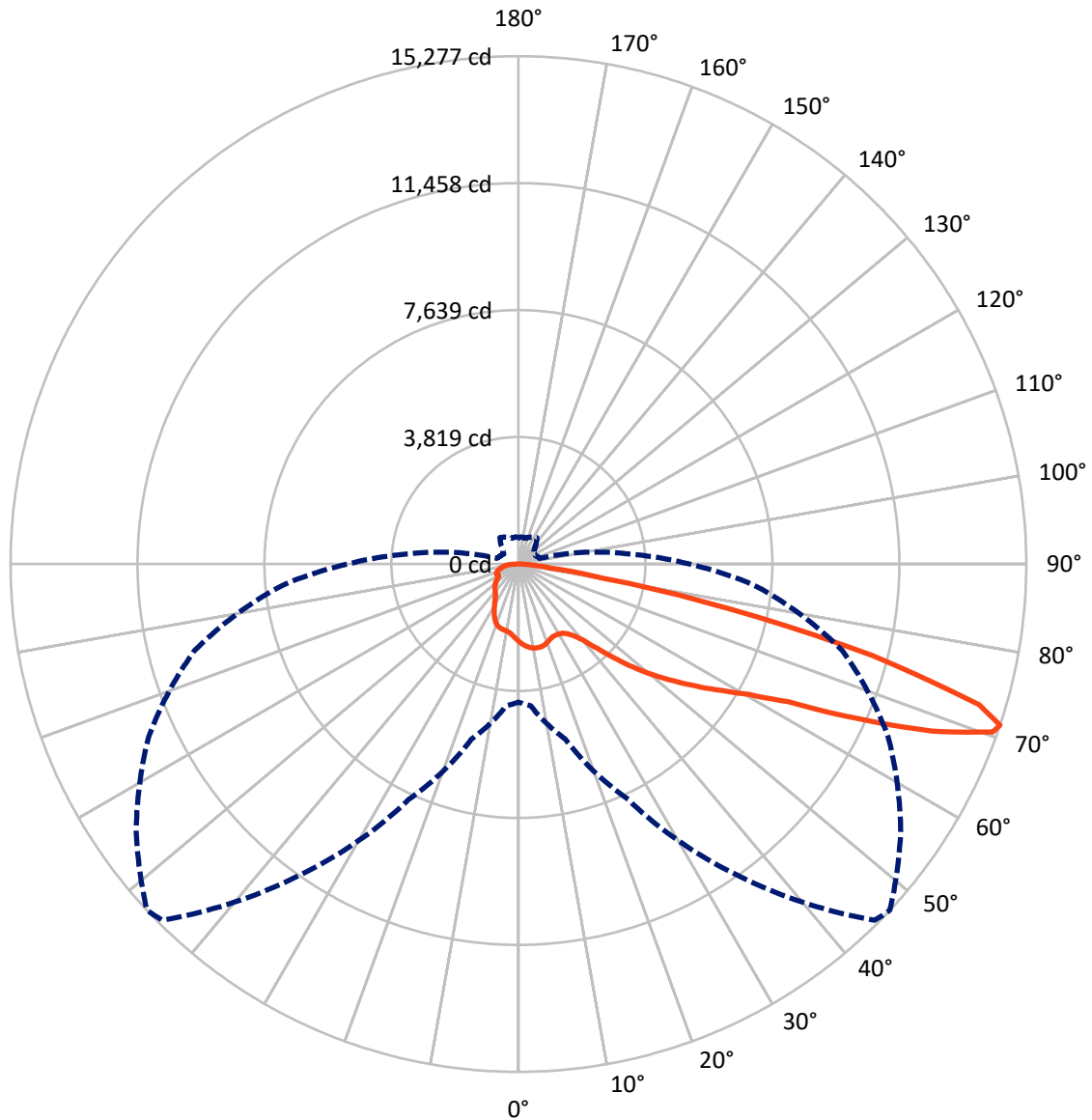
× Max cd
 - - - 1/2 Max cd



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
House Side	Lumens	4198.6	0.0	4198.6
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	15392.4	0.0	15392.4
	% Fixture	78.6	0.0	78.6
Total	Lumens	19591.0	0.0	19591.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.4	1.1
10°-20°	650.8	3.3
20°-30°	967.0	4.9
30°-40°	1388.5	7.1
40°-50°	2461.8	12.6
50°-60°	4212.5	21.5
60°-70°	5980.3	30.5
70°-80°	3275.4	16.7
80°-90°	432.4	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°	19591.0	100.0
0°-180°	19591.0	100.0



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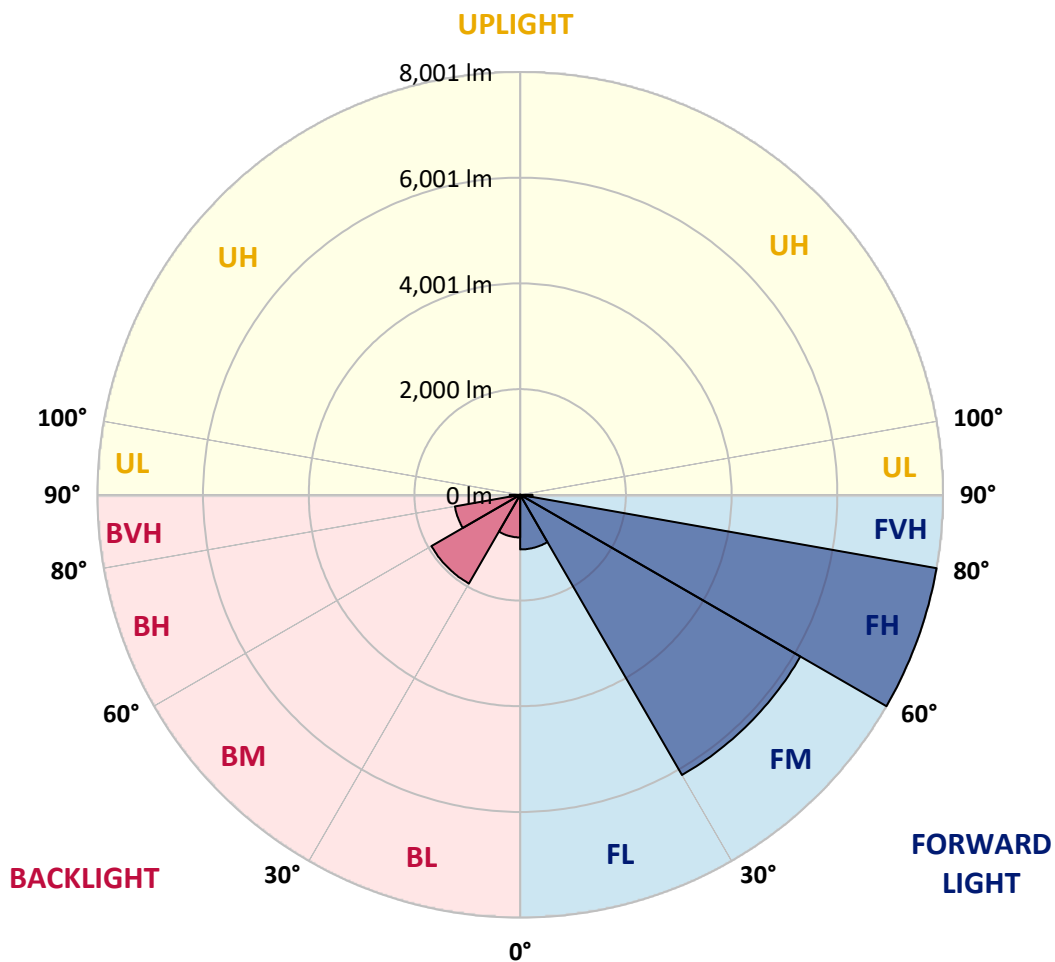
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1033.9	5.3			
FM	(30°-60°)	6122.8	31.3			
FH	(60°-80°)	8001.2	40.8			G4/12000
FVH	(80°-90°)	234.5	1.2			G3/500
BL	(0°-30°)	806.3	4.1	B2/1000		
BM	(30°-60°)	1940.0	9.9	B2/2500		
BH	(60°-80°)	1254.5	6.4	B3/2500		G3/2500
BVH	(80°-90°)	197.8	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°	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7
2.5°	2471.9	2466.8	2469.4	2460.5	2438.9	2416.0	2416.0	2391.9	2366.5	2341.1	2313.2
5°	2625.5	2617.9	2611.5	2583.6	2541.7	2494.7	2487.1	2438.9	2386.8	2334.8	2284.0
7.5°	2753.7	2746.1	2727.1	2676.3	2615.4	2545.5	2536.6	2473.2	2404.6	2332.2	2261.1
10°	2845.2	2840.1	2803.3	2738.5	2667.4	2584.9	2569.7	2504.9	2423.6	2333.5	2243.4
12.5°	2895.9	2888.3	2843.9	2767.7	2683.9	2600.1	2584.9	2522.7	2430.0	2331.0	2225.6
15°	2875.6	2871.8	2829.9	2752.5	2668.7	2596.3	2583.6	2520.1	2426.2	2322.1	2209.1
17.5°	2789.3	2798.2	2765.2	2689.0	2620.4	2569.7	2555.7	2496.0	2407.1	2300.5	2183.7
20°	2669.9	2680.1	2663.6	2586.2	2546.8	2513.8	2506.2	2457.9	2375.4	2268.8	2153.2
22.5°	2543.0	2551.9	2553.1	2480.8	2468.1	2455.4	2449.0	2414.8	2347.5	2249.7	2132.9
25°	2455.4	2465.5	2468.1	2404.6	2412.2	2416.0	2414.8	2390.6	2342.4	2249.7	2135.5
27.5°	2432.5	2437.6	2435.1	2376.7	2390.6	2412.2	2413.5	2408.4	2362.7	2275.1	2171.0
30°	2511.2	2513.8	2482.0	2394.4	2408.4	2436.3	2437.6	2435.1	2405.9	2341.1	2251.0
32.5°	2851.5	2849.0	2739.8	2513.8	2465.5	2475.7	2479.5	2502.4	2504.9	2450.3	2366.5
35°	3369.5	3368.2	3241.3	2855.3	2628.1	2574.7	2579.8	2615.4	2647.1	2610.3	2562.0
37.5°	3939.5	3943.3	3865.9	3342.8	2978.5	2756.3	2751.2	2777.9	2835.0	2847.7	2854.0
40°	4571.8	4590.8	4587.0	3902.7	3469.8	3066.1	3015.3	2984.8	3095.3	3165.1	3255.2
42.5°	5294.2	5289.1	5291.7	4517.2	4030.9	3553.6	3459.6	3317.4	3445.7	3566.3	3764.3
45°	5915.0	5935.3	5950.6	5171.0	4659.4	4110.9	4015.7	3756.7	3872.3	4052.5	4354.7
47.5°	6539.7	6504.1	6532.0	5898.5	5358.9	4747.0	4623.8	4274.7	4382.6	4636.5	5096.1
50°	7267.1	7250.6	7123.7	6848.2	6204.5	5391.9	5230.7	4815.6	4973.0	5312.0	6011.5
52.5°	7919.7	7830.8	7731.8	7594.7	7036.1	6044.5	5840.1	5378.0	5667.5	6087.7	7147.8
55°	8158.4	8098.7	8218.1	8395.8	7915.9	6709.8	6481.3	6034.4	6450.8	6975.1	8484.7
57.5°	8412.3	8432.6	8701.8	9061.1	8748.7	7419.5	7171.9	6811.4	7310.3	7967.9	9979.0
60°	8539.3	8620.5	9157.6	9831.7	9541.0	8197.7	7960.3	7703.9	8263.8	9064.9	11469.5
62.5°	8560.8	8670.0	9430.5	10102.1	10631.5	9389.9	9115.7	8837.6	9454.6	10277.3	12548.6
65°	8164.7	8332.3	9406.4	10434.8	11625.6	11381.9	11207.9	10723.0	11049.2	11345.1	12732.7
67.5°	7000.5	7183.3	8475.8	10297.6	12422.9	13448.8	13415.8	12699.7	12280.7	11757.7	11367.9
70°	5138.0	5285.3	6527.0	8803.3	12075.1	15071.3	15129.7	13980.7	12624.8	10881.7	8452.9
71°	4155.4	4282.3	5452.9	7815.6	11397.1	15155.1	15277.0	14037.9	12266.8	10090.7	7076.7
72.5°	2586.2	2657.3	3620.9	5898.5	9813.9	14291.8	14497.5	13306.6	11139.4	8529.1	5002.2
75°	976.3	1004.2	1343.2	2601.4	5857.9	10736.9	10985.8	10056.4	7825.8	4868.9	2093.6
77.5°	524.3	538.3	666.5	1081.7	2347.5	6155.0	6474.9	5736.0	3754.2	1703.8	855.7
80°	351.7	360.6	460.9	641.1	1079.2	2343.7	2610.3	2303.0	1405.4	972.5	609.4
82.5°	227.3	232.3	313.6	421.5	697.0	824.0	940.8	982.7	877.3	697.0	368.2
85°	149.8	153.6	206.9	269.2	431.7	406.3	416.4	544.7	598.0	459.6	187.9
87.5°	86.3	88.9	124.4	138.4	194.2	152.4	165.0	259.0	355.5	299.6	107.9
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°	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7	2329.7
2.5°	2300.5	2290.3	2267.5	2253.5	2247.2	2244.6	2242.1	2247.2	2247.2	2244.6	2239.6
5°	2258.6	2239.6	2201.5	2174.8	2160.8	2157.0	2162.1	2168.5	2172.3	2172.3	2168.5
7.5°	2228.1	2200.2	2149.4	2112.6	2091.0	2084.7	2098.6	2121.5	2136.7	2144.3	2145.6
10°	2202.7	2164.7	2108.8	2070.7	2052.9	2050.4	2068.2	2097.4	2129.1	2143.1	2145.6
12.5°	2179.9	2136.7	2075.8	2040.2	2027.5	2033.9	2058.0	2084.7	2121.5	2141.8	2143.1
15°	2158.3	2113.9	2049.1	2012.3	2009.8	2019.9	2042.8	2064.4	2092.3	2117.7	2117.7
17.5°	2132.9	2084.7	2017.4	1983.1	1983.1	1992.0	2007.2	2018.6	2036.4	2060.5	2059.3
20°	2102.4	2052.9	1984.4	1948.8	1941.2	1936.1	1936.1	1938.7	1953.9	1975.5	1979.3
22.5°	2079.6	2028.8	1956.4	1913.3	1879.0	1846.0	1832.0	1826.9	1840.9	1861.2	1866.3
25°	2079.6	2028.8	1947.6	1875.2	1791.4	1727.9	1701.3	1693.6	1707.6	1726.6	1734.3
27.5°	2113.9	2063.1	1967.9	1840.9	1687.3	1585.7	1554.0	1547.6	1560.3	1575.6	1583.2
30°	2193.9	2144.3	2026.3	1801.5	1571.8	1438.4	1402.9	1396.5	1402.9	1409.2	1418.1
32.5°	2327.2	2285.3	2121.5	1766.0	1455.0	1305.1	1262.0	1251.8	1254.4	1255.6	1263.2
35°	2544.3	2525.2	2248.4	1724.1	1344.5	1196.0	1151.5	1131.2	1129.9	1136.3	1145.2
37.5°	2876.9	2888.3	2412.2	1663.2	1253.1	1118.5	1074.1	1053.8	1043.6	1056.3	1066.5
40°	3346.6	3373.3	2601.4	1580.6	1178.2	1072.8	1025.8	1006.8	992.8	989.0	994.1
42.5°	3957.3	3949.7	2794.4	1475.3	1096.9	1042.3	992.8	972.5	949.7	920.5	914.1
45°	4681.0	4571.8	2955.6	1345.8	1004.2	1013.1	962.3	934.4	898.9	855.7	850.6
47.5°	5535.4	5234.5	3054.6	1207.4	917.9	975.0	928.1	884.9	832.9	804.9	801.1
50°	6565.1	6010.2	3124.5	1066.5	840.5	926.8	879.8	822.7	771.9	764.3	763.0
52.5°	7783.9	6925.6	3210.8	939.5	779.5	864.6	831.6	773.2	732.6	736.4	736.4
55°	9080.1	7872.7	3213.3	839.2	726.2	792.2	796.0	749.1	717.3	730.0	733.8
57.5°	10262.1	8700.5	2960.7	768.1	675.4	735.1	784.6	757.9	733.8	778.3	782.1
60°	11293.0	9337.8	2417.3	709.7	633.5	713.5	810.0	812.5	807.5	928.1	937.0
62.5°	11670.1	9344.2	1716.5	660.2	610.7	726.2	863.3	867.1	867.1	978.9	995.4
65°	11141.9	8565.9	1142.6	631.0	595.4	754.1	906.5	890.0	850.6	928.1	910.3
67.5°	9280.7	6667.9	835.4	611.9	573.9	755.4	944.6	902.7	835.4	901.4	870.9
70°	6378.4	4243.0	699.5	594.2	548.5	722.4	964.9	898.9	812.5	840.5	799.8
71°	5134.2	3386.0	664.0	587.8	538.3	703.4	967.4	893.8	801.1	818.9	782.1
72.5°	3382.2	2085.9	620.8	573.9	523.1	670.3	961.1	882.4	785.9	787.1	763.0
75°	1334.3	864.6	558.6	542.1	479.9	617.0	933.1	858.2	756.7	731.3	721.1
77.5°	674.2	565.0	491.3	497.7	429.1	562.4	893.8	818.9	716.0	681.8	674.2
80°	492.6	429.1	420.2	431.7	372.0	509.1	844.3	765.6	664.0	699.5	684.3
82.5°	299.6	261.5	328.8	356.8	311.0	454.5	785.9	703.4	598.0	551.0	533.2
85°	142.2	153.6	237.4	262.8	229.8	363.1	718.6	634.8	521.8	450.7	458.3
87.5°	69.8	85.1	135.8	157.4	151.1	266.6	542.1	492.6	411.3	339.0	331.4
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)