

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: P195826

Luminaire Tested: **NAV-AF-04-D-UNV-T3-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195826
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-04-D-UNV-T3-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19717 lumens
Efficiency: N/A
Efficacy: 115.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

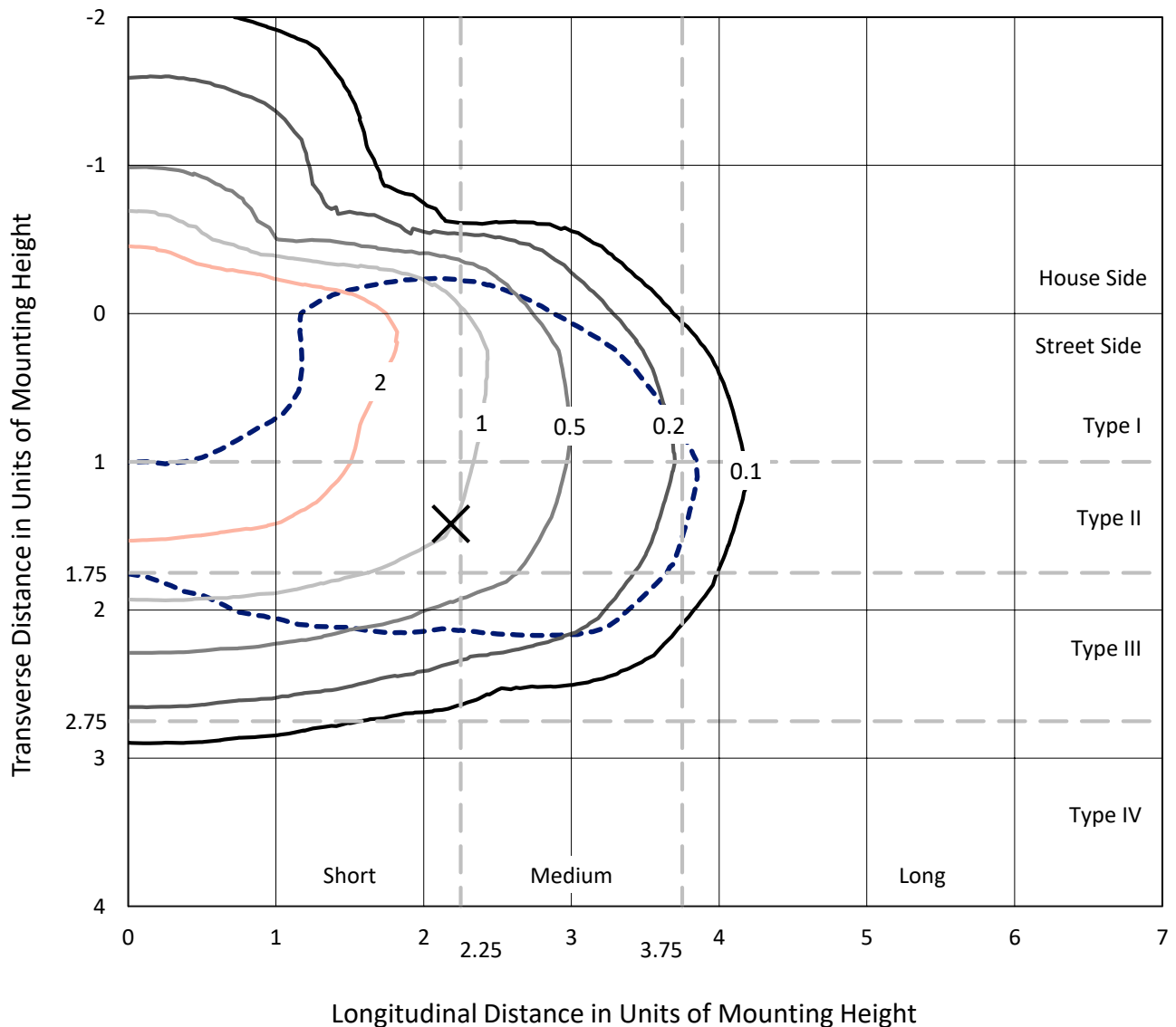
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

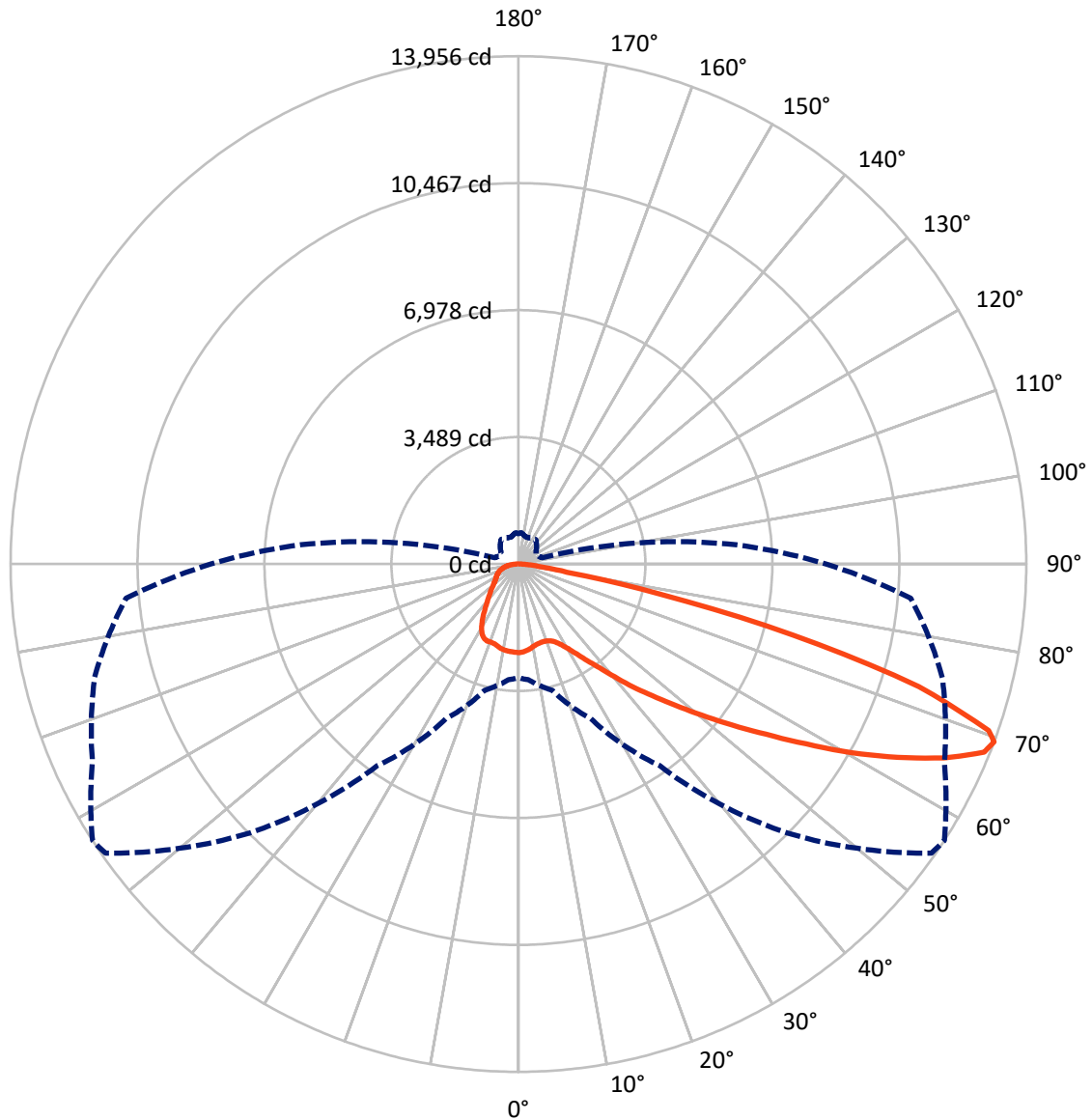
× Max cd
 - - - 1/2 Max cd



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	4350.8	0.0	4350.8
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	15366.2	0.0	15366.2
	% Fixture	77.9	0.0	77.9
Total	Lumens	19717.0	0.0	19717.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	228.1	1.2
10°-20°	648.5	3.3
20°-30°	1078.8	5.5
30°-40°	1761.6	8.9
40°-50°	2973.1	15.1
50°-60°	4624.8	23.5
60°-70°	5509.2	27.9
70°-80°	2566.5	13.0
80°-90°	326.4	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°	19717.0	100.0
0°-180°	19717.0	100.0



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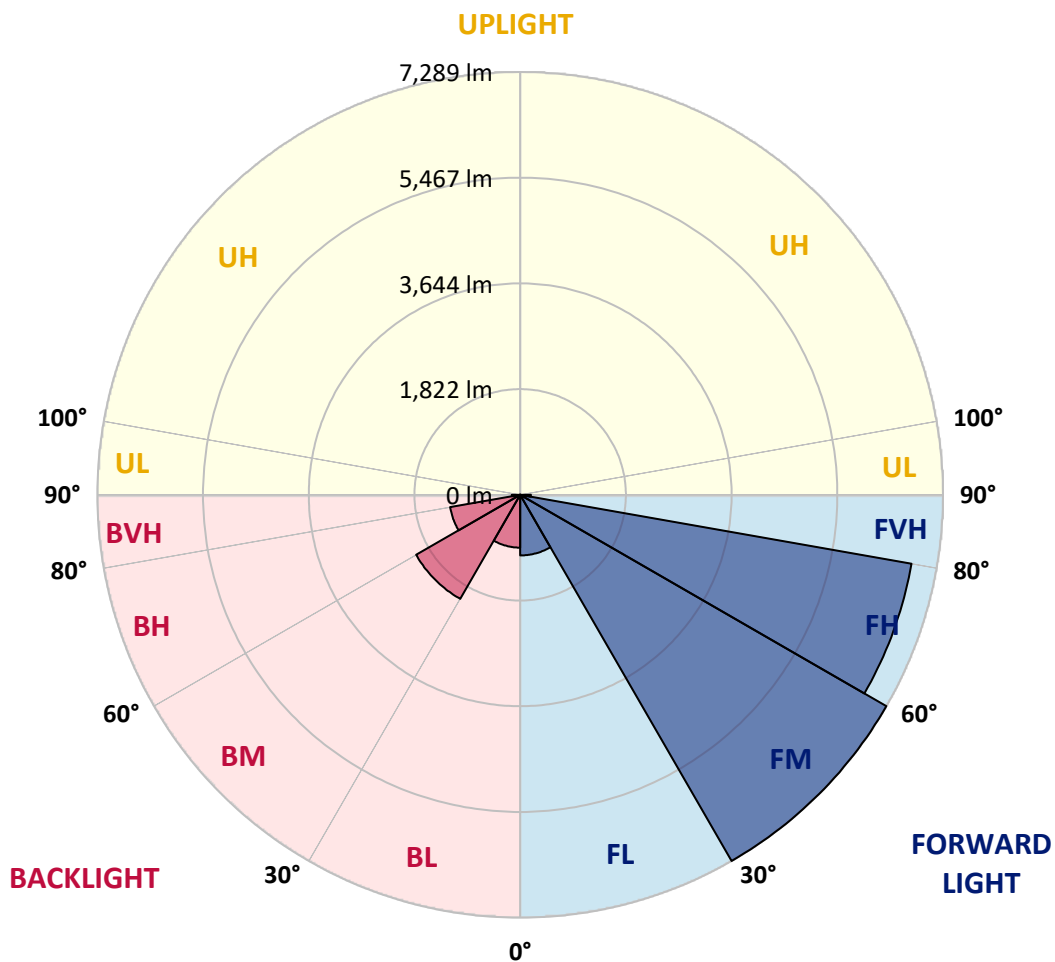
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1044.2	5.3			
FM	(30°-60°)	7288.8	37.0			
FH	(60°-80°)	6849.7	34.7			G3/7500
FVH	(80°-90°)	183.5	0.9			G2/225
BL	(0°-30°)	911.2	4.6	B2/1000		
BM	(30°-60°)	2070.8	10.5	B2/2500		
BH	(60°-80°)	1226.0	6.2	B3/2500		G3/2500
BVH	(80°-90°)	142.9	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°	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2
2.5°	2422.3	2422.3	2428.7	2428.7	2428.7	2426.1	2418.6	2421.1	2416.0	2412.2	2405.9
5°	2373.1	2375.6	2383.2	2385.7	2389.5	2390.8	2390.8	2389.5	2390.8	2390.8	2387.0
7.5°	2304.9	2307.5	2316.3	2321.4	2332.7	2342.8	2347.9	2347.9	2354.2	2359.2	2360.5
10°	2263.3	2263.3	2268.3	2268.3	2277.2	2282.2	2298.6	2297.4	2315.0	2331.5	2339.0
12.5°	2258.2	2258.2	2255.7	2246.9	2241.8	2240.6	2257.0	2259.5	2286.0	2315.0	2328.9
15°	2274.7	2274.7	2267.1	2249.4	2230.5	2221.6	2238.0	2243.1	2272.1	2306.2	2327.7
17.5°	2327.7	2326.4	2310.0	2274.7	2241.8	2227.9	2233.0	2238.0	2264.6	2303.7	2330.2
20°	2445.1	2445.1	2409.7	2345.3	2288.5	2255.7	2248.1	2251.9	2270.9	2307.5	2341.6
22.5°	2650.8	2654.6	2591.5	2485.5	2388.3	2318.8	2288.5	2292.3	2301.2	2336.5	2374.4
25°	2953.8	2943.7	2854.0	2703.8	2552.4	2433.7	2371.9	2375.6	2375.6	2408.5	2447.6
27.5°	3274.4	3276.9	3148.2	2986.6	2787.1	2610.4	2512.0	2510.7	2509.4	2541.0	2582.7
30°	3636.7	3637.9	3489.0	3302.2	3073.7	2847.7	2700.0	2698.8	2687.4	2726.6	2780.8
32.5°	4033.0	4031.8	3858.8	3648.0	3394.3	3138.1	2946.2	2944.9	2936.1	2989.1	3054.8
35°	4472.3	4472.3	4300.6	4040.6	3766.7	3481.4	3259.2	3258.0	3263.0	3335.0	3396.8
37.5°	5001.2	5012.6	4805.6	4490.0	4190.8	3886.6	3627.8	3620.3	3582.4	3703.6	3805.8
40°	5552.8	5584.4	5369.8	5001.2	4678.1	4363.8	4078.5	4073.4	4040.6	4169.4	4334.7
42.5°	6149.9	6221.8	5983.3	5607.1	5254.9	4915.4	4628.8	4614.9	4488.7	4689.4	4948.2
45°	6932.5	6979.2	6633.4	6292.5	5960.6	5573.0	5232.2	5157.7	5031.5	5289.0	5624.8
47.5°	7465.2	7442.5	7226.6	6998.2	6784.8	6413.7	5889.9	5795.2	5641.2	5982.0	6351.9
50°	7795.9	7812.3	7691.2	7679.8	7668.4	7409.7	6632.1	6518.5	6340.5	6744.4	7176.1
52.5°	8014.3	7939.8	7961.3	8218.8	8530.6	8406.9	7471.5	7345.3	7162.3	7566.2	8053.4
55°	7923.4	7825.0	8023.1	8530.6	9264.0	9291.7	8393.0	8263.0	8106.5	8439.7	9108.7
57.5°	7547.3	7596.5	7909.5	8615.2	9765.1	10084.5	9452.1	9319.5	9011.5	9349.8	10111.0
60°	7018.4	7118.1	7596.5	8481.4	10116.0	10701.7	10614.6	10526.3	9996.1	10235.9	11163.7
62.5°	6450.3	6548.8	7137.0	8252.9	9958.2	11248.3	11755.7	11701.5	11082.9	11089.3	11831.5
65°	5610.9	5651.3	6252.1	7629.3	9520.2	11741.9	12898.1	12850.2	12121.8	11817.6	12018.3
67.5°	4237.5	4288.0	4781.6	6022.4	8187.2	11474.3	13810.8	13803.2	12746.6	12087.7	11574.0
69°	3129.2	3191.1	3593.8	4675.5	6769.7	10454.3	13853.7	13955.9	12915.8	12060.0	10822.9
70°	2289.8	2360.5	2732.9	3711.1	5638.7	9328.4	13486.4	13706.0	12851.4	11884.5	10237.2
72.5°	973.2	997.2	1180.2	1675.1	2860.4	5624.8	11046.3	11508.3	11606.8	10648.7	7997.9
75°	609.7	617.3	689.2	859.6	1272.4	2326.4	7153.4	7783.3	8665.6	8261.7	5354.7
77.5°	459.5	465.8	507.4	592.0	790.2	868.5	3318.6	3957.3	4963.3	4859.8	2664.7
80°	352.2	356.0	383.7	430.4	556.7	544.0	1076.7	1353.2	2071.4	1827.8	942.9
82.5°	276.4	277.7	301.7	310.5	388.8	366.1	540.3	602.1	836.9	695.5	460.7
85°	244.9	248.7	272.7	227.2	248.7	220.9	296.6	321.9	444.3	419.1	174.2
87.5°	125.0	131.3	228.5	194.4	125.0	104.8	130.0	140.1	180.5	195.7	84.6
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°	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2
2.5°	2407.2	2408.5	2412.2	2418.6	2428.7	2441.3	2456.4	2471.6	2480.4	2486.7	2484.2
5°	2387.0	2388.3	2395.8	2407.2	2419.8	2438.8	2464.0	2482.9	2496.8	2505.7	2504.4
7.5°	2361.8	2365.5	2380.7	2393.3	2411.0	2426.1	2446.3	2464.0	2477.9	2486.7	2485.5
10°	2342.8	2346.6	2365.5	2381.9	2397.1	2399.6	2395.8	2390.8	2389.5	2395.8	2393.3
12.5°	2334.0	2341.6	2359.2	2370.6	2364.3	2340.3	2312.5	2301.2	2297.4	2310.0	2311.3
15°	2336.5	2342.8	2358.0	2350.4	2316.3	2275.9	2260.8	2269.6	2277.2	2284.8	2286.0
17.5°	2342.8	2346.6	2350.4	2322.6	2274.7	2248.1	2243.1	2234.3	2211.5	2198.9	2197.7
20°	2354.2	2359.2	2352.9	2308.7	2265.8	2230.5	2169.9	2115.6	2063.9	2036.1	2024.7
22.5°	2393.3	2397.1	2378.2	2335.2	2269.6	2154.7	2032.3	1938.9	1859.4	1816.4	1800.0
25°	2470.3	2476.6	2450.1	2395.8	2224.2	2023.5	1850.5	1724.3	1624.6	1572.8	1558.9
27.5°	2605.4	2611.7	2582.7	2441.3	2118.1	1848.0	1638.5	1513.5	1427.7	1383.5	1377.2
30°	2807.3	2816.2	2789.7	2440.0	1956.6	1624.6	1431.4	1358.2	1309.0	1278.7	1277.4
32.5°	3087.6	3120.4	3011.8	2397.1	1757.1	1398.6	1274.9	1249.7	1225.7	1205.5	1205.5
35°	3443.5	3520.5	3231.5	2307.5	1537.5	1244.6	1187.8	1163.8	1133.5	1112.1	1109.6
37.5°	3868.9	3988.8	3388.0	2148.4	1348.1	1170.1	1134.8	1095.7	1047.7	1006.0	996.0
40°	4453.4	4481.1	3465.0	1889.7	1206.8	1129.8	1085.6	1036.3	975.8	929.0	924.0
42.5°	5040.3	4949.5	3449.8	1611.9	1126.0	1093.1	1035.1	980.8	926.5	887.4	887.4
45°	5708.1	5358.4	3335.0	1333.0	1052.8	1051.5	988.4	936.6	895.0	865.9	859.6
47.5°	6346.8	5725.8	3136.8	1127.2	977.0	1009.8	958.1	916.4	878.6	850.8	845.7
50°	7121.9	6151.2	2926.0	983.3	903.8	973.2	945.5	924.0	887.4	839.4	834.4
52.5°	7891.9	6648.5	2763.2	874.8	839.4	944.2	953.0	955.6	921.5	828.1	821.8
55°	8718.7	7179.9	2591.5	790.2	786.4	930.3	970.7	968.2	951.8	830.6	820.5
57.5°	9505.1	7713.9	2335.2	730.9	744.8	916.4	974.5	934.1	905.1	843.2	826.8
60°	10156.4	8155.7	1959.1	689.2	709.4	888.7	949.2	888.7	839.4	840.7	825.5
62.5°	10473.3	8279.4	1498.3	641.2	680.4	843.2	912.6	854.6	809.1	845.7	836.9
65°	10232.2	7927.2	1067.9	597.1	645.0	790.2	891.2	825.5	794.0	871.0	860.9
67.5°	9366.2	6967.9	775.0	557.9	611.0	735.9	850.8	799.0	778.8	889.9	867.2
69°	8446.0	6016.1	671.5	535.2	587.0	706.9	824.3	785.1	767.5	863.4	830.6
70°	7681.1	5282.7	619.8	521.3	566.8	690.5	804.1	776.3	756.1	831.9	792.7
72.5°	5507.4	3414.5	521.3	479.7	513.8	653.9	759.9	743.5	713.2	751.1	725.8
75°	3327.4	1782.4	443.1	436.8	458.2	603.4	708.1	688.0	657.7	661.4	648.8
77.5°	1528.6	823.0	371.1	386.3	400.1	540.3	645.0	622.3	594.5	584.4	585.7
80°	670.3	480.9	310.5	329.5	337.0	486.0	576.9	551.6	521.3	575.6	534.0
82.5°	362.3	279.0	242.4	255.0	276.4	422.9	501.1	468.3	439.3	511.2	412.8
85°	146.4	142.6	164.1	176.7	191.9	304.2	419.1	385.0	349.7	313.0	305.5
87.5°	63.1	68.2	80.8	85.8	102.2	189.3	281.5	246.1	247.4	212.1	208.3
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)