

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: P196786

Luminaire Tested: **NAV-AF-04-D-UNV-T3-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196786
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-T3-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19069 lumens
Efficiency: N/A
Efficacy: 111.5 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

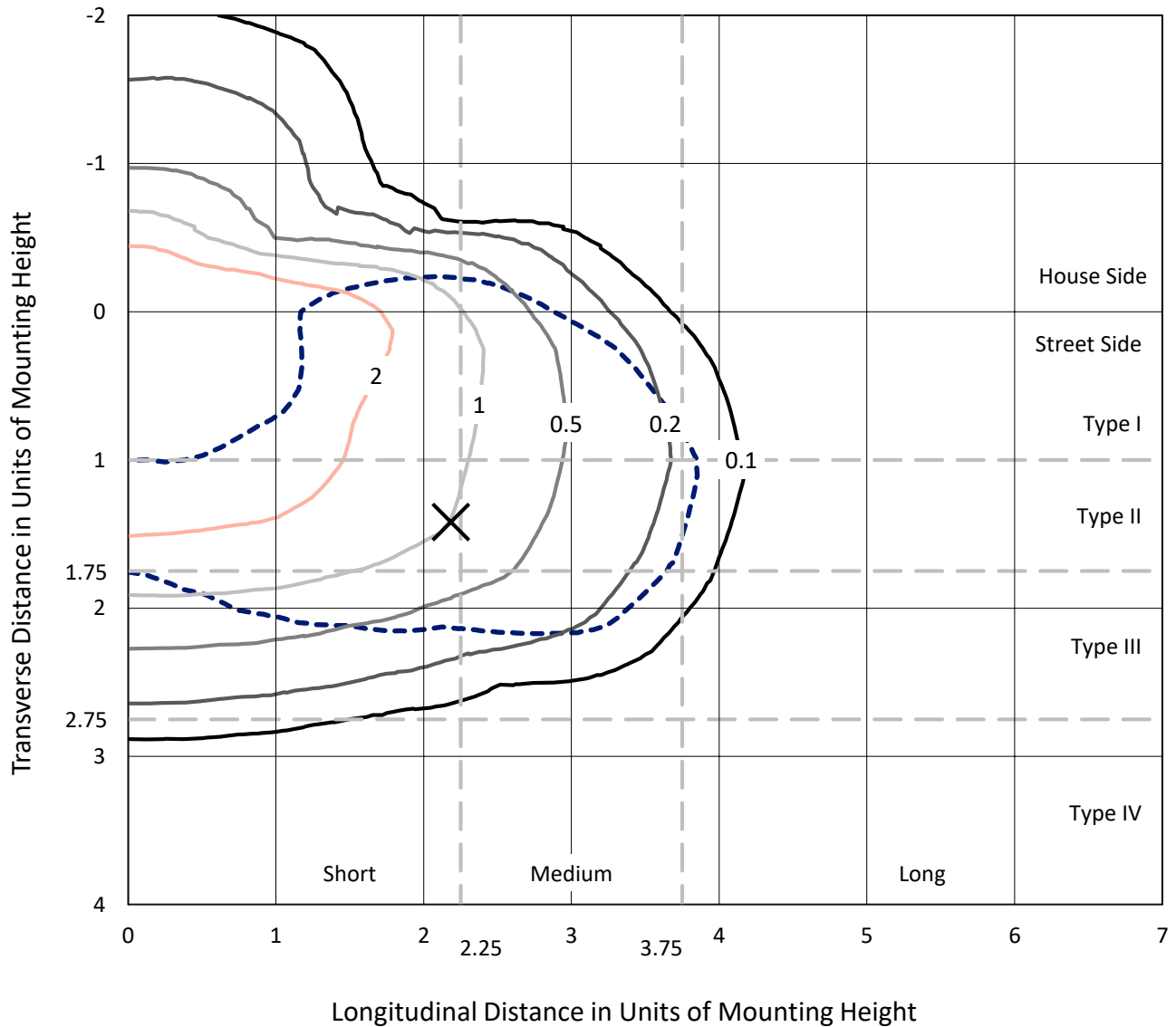
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

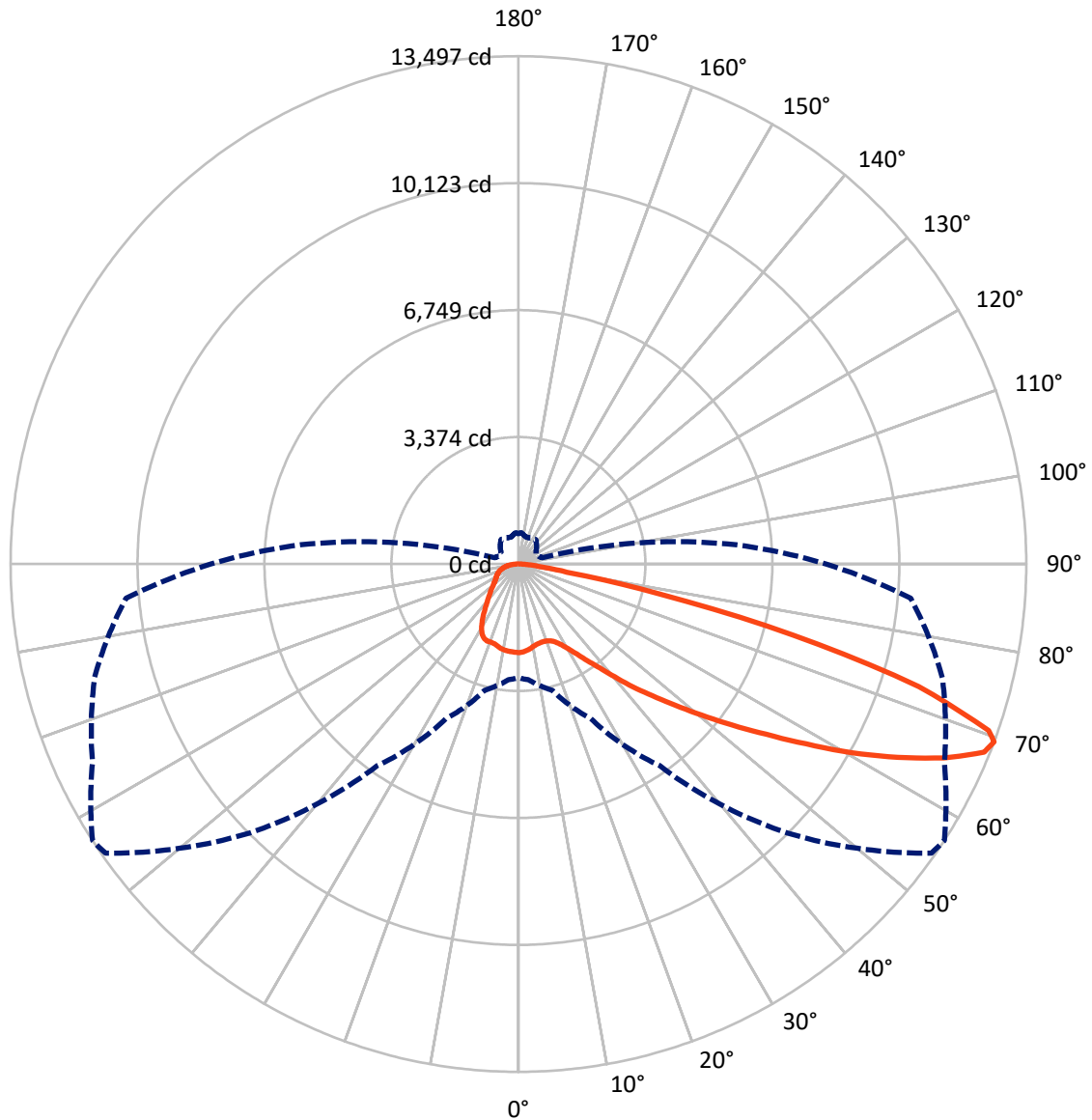
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 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	4207.9	0.0	4207.9
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	14861.1	0.0	14861.1
	% Fixture	77.9	0.0	77.9
Total	Lumens	19069.0	0.0	19069.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.6	1.2
10°-20°	627.2	3.3
20°-30°	1043.3	5.5
30°-40°	1703.7	8.9
40°-50°	2875.4	15.1
50°-60°	4472.8	23.5
60°-70°	5328.1	27.9
70°-80°	2482.2	13.0
80°-90°	315.7	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°	19069.0	100.0
0°-180°	19069.0	100.0



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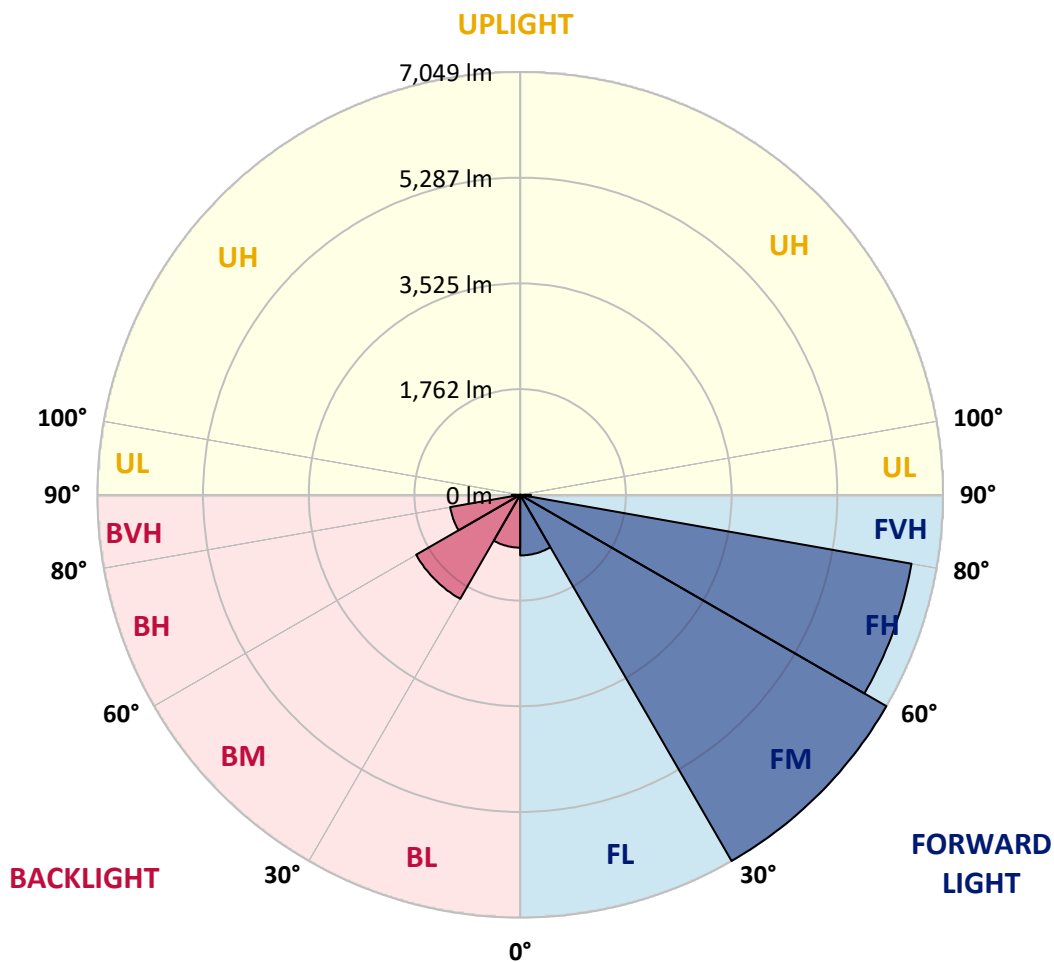
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1009.9	5.3			
FM	(30°-60°)	7049.2	37.0			
FH	(60°-80°)	6624.6	34.7			G3/7500
FVH	(80°-90°)	177.5	0.9			G2/225
BL	(0°-30°)	881.2	4.6	B2/1000		
BM	(30°-60°)	2002.7	10.5	B2/2500		
BH	(60°-80°)	1185.7	6.2	B3/2500		G3/2500
BVH	(80°-90°)	138.2	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°	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1
2.5°	2342.7	2342.7	2348.8	2348.8	2348.8	2346.4	2339.0	2341.5	2336.6	2333.0	2326.9
5°	2295.1	2297.6	2305.0	2307.3	2311.0	2312.3	2312.3	2311.0	2312.3	2312.3	2308.5
7.5°	2229.2	2231.6	2240.2	2245.1	2256.1	2265.8	2270.7	2270.7	2276.9	2281.7	2282.9
10°	2188.9	2188.9	2193.8	2193.8	2202.3	2207.2	2223.1	2221.9	2238.9	2254.8	2262.2
12.5°	2184.0	2184.0	2181.6	2173.0	2168.1	2166.9	2182.8	2185.3	2210.9	2238.9	2252.4
15°	2199.9	2199.9	2192.7	2175.5	2157.3	2148.6	2164.5	2169.4	2197.4	2230.4	2251.2
17.5°	2251.2	2249.9	2234.2	2199.9	2168.1	2154.7	2159.6	2164.5	2190.1	2228.1	2253.6
20°	2364.7	2364.7	2330.5	2268.2	2213.4	2181.6	2174.3	2178.0	2196.2	2231.6	2264.6
22.5°	2563.7	2567.4	2506.3	2403.8	2309.7	2242.6	2213.4	2217.0	2225.5	2259.7	2296.3
25°	2856.7	2847.0	2760.2	2615.0	2468.5	2353.8	2293.9	2297.6	2297.6	2329.3	2367.1
27.5°	3166.8	3169.2	3044.7	2888.5	2695.5	2524.7	2429.4	2428.2	2426.9	2457.5	2497.7
30°	3517.2	3518.3	3374.4	3193.6	2972.7	2754.1	2611.3	2610.1	2599.1	2637.0	2689.4
32.5°	3900.4	3899.3	3732.0	3528.1	3282.8	3034.9	2849.4	2848.2	2839.6	2890.9	2954.4
35°	4325.3	4325.3	4159.3	3907.7	3642.9	3367.1	3152.1	3150.9	3155.9	3225.4	3285.2
37.5°	4836.8	4847.9	4647.7	4342.4	4053.1	3758.8	3508.7	3501.3	3464.6	3581.8	3680.7
40°	5370.3	5400.9	5193.3	4836.8	4524.3	4220.3	3944.5	3939.6	3907.7	4032.3	4192.3
42.5°	5947.7	6017.4	5786.6	5422.9	5082.2	4753.9	4476.7	4463.2	4341.2	4535.4	4785.5
45°	6704.7	6749.8	6415.3	6085.7	5764.6	5389.9	5060.3	4988.2	4866.2	5115.2	5439.9
47.5°	7219.9	7197.9	6989.1	6768.2	6561.9	6202.9	5696.3	5604.8	5455.8	5785.4	6143.1
50°	7539.8	7555.6	7438.4	7427.5	7416.4	7166.2	6414.2	6304.3	6132.1	6522.8	6940.2
52.5°	7751.0	7678.8	7699.6	7948.7	8250.2	8130.6	7226.0	7103.9	6926.9	7317.5	7788.8
55°	7663.0	7567.9	7759.5	8250.2	8959.5	8986.3	8117.2	7991.4	7840.0	8162.3	8809.3
57.5°	7299.2	7346.8	7649.6	8332.0	9444.2	9753.0	9141.4	9013.3	8715.4	9042.6	9778.7
60°	6787.7	6884.1	7346.8	8202.6	9783.6	10350.0	10265.8	10180.3	9667.6	9899.6	10796.9
62.5°	6238.3	6333.5	6902.5	7981.6	9630.9	10878.6	11369.4	11316.8	10718.7	10724.8	11442.6
65°	5426.5	5465.5	6046.6	7378.6	9207.4	11356.0	12474.2	12427.8	11723.4	11429.2	11623.3
67.5°	4098.2	4147.1	4624.4	5824.5	7918.1	11097.1	13356.8	13349.6	12327.7	11690.5	11193.6
69°	3026.4	3086.2	3475.6	4521.9	6547.3	10110.8	13398.4	13497.3	12491.3	11663.7	10467.2
70°	2214.5	2282.9	2643.1	3589.1	5453.3	9021.7	13043.2	13255.6	12429.2	11494.0	9900.7
72.5°	941.3	964.4	1141.4	1620.0	2766.3	5439.9	10683.3	11130.1	11225.3	10298.8	7735.0
75°	589.7	597.0	666.6	831.4	1230.6	2249.9	6918.3	7527.5	8380.8	7990.2	5178.7
77.5°	444.3	450.4	490.8	572.5	764.3	839.8	3209.5	3827.3	4800.2	4700.2	2577.1
80°	340.6	344.2	371.2	416.3	538.4	526.2	1041.4	1308.7	2003.4	1767.7	912.0
82.5°	267.3	268.6	291.7	300.4	376.0	354.0	522.5	582.4	809.4	672.7	445.6
85°	236.9	240.5	263.7	219.7	240.5	213.6	287.0	311.3	429.7	405.4	168.5
87.5°	120.8	127.0	220.9	188.0	120.8	101.3	125.7	135.5	174.6	189.2	81.8
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°	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1	2356.1
2.5°	2328.1	2329.3	2333.0	2339.0	2348.8	2361.1	2375.8	2390.4	2398.9	2405.1	2402.5
5°	2308.5	2309.7	2317.1	2328.1	2340.4	2358.6	2383.1	2401.3	2414.7	2423.3	2422.1
7.5°	2284.2	2287.8	2302.4	2314.6	2331.7	2346.4	2365.9	2383.1	2396.5	2405.1	2403.8
10°	2265.8	2269.6	2287.8	2303.6	2318.4	2320.7	2317.1	2312.3	2311.0	2317.1	2314.6
12.5°	2257.3	2264.6	2281.7	2292.7	2286.6	2263.5	2236.5	2225.5	2221.9	2234.2	2235.3
15°	2259.7	2265.8	2280.5	2273.1	2240.2	2201.1	2186.5	2195.0	2202.3	2209.7	2210.9
17.5°	2265.8	2269.6	2273.1	2246.3	2199.9	2174.3	2169.4	2160.8	2138.9	2126.6	2125.4
20°	2276.9	2281.7	2275.6	2232.8	2191.3	2157.3	2098.6	2046.1	1996.0	1969.2	1958.2
22.5°	2314.6	2318.4	2300.0	2258.5	2195.0	2083.9	1965.5	1875.2	1798.3	1756.8	1740.8
25°	2389.2	2395.2	2369.7	2317.1	2151.1	1957.0	1789.6	1667.7	1571.1	1521.1	1507.7
27.5°	2519.7	2525.8	2497.7	2361.1	2048.5	1787.3	1584.6	1463.7	1380.7	1338.0	1331.9
30°	2715.1	2723.7	2697.9	2359.8	1892.3	1571.1	1384.5	1313.7	1266.0	1236.7	1235.5
32.5°	2986.0	3017.8	2912.9	2318.4	1699.4	1352.6	1233.0	1208.6	1185.4	1165.9	1165.9
35°	3330.3	3404.8	3125.3	2231.6	1486.9	1203.7	1148.8	1125.6	1096.3	1075.5	1073.2
37.5°	3741.8	3857.7	3276.6	2077.8	1303.8	1131.7	1097.5	1059.7	1013.3	973.0	963.2
40°	4307.0	4333.9	3351.1	1827.6	1167.1	1092.6	1049.9	1002.2	943.7	898.5	893.6
42.5°	4874.7	4786.7	3336.4	1559.0	1089.0	1057.2	1001.1	948.6	896.0	858.2	858.2
45°	5520.6	5182.3	3225.4	1289.1	1018.2	1016.9	955.9	905.9	865.6	837.5	831.4
47.5°	6138.1	5537.6	3033.7	1090.2	944.9	976.7	926.6	886.3	849.7	822.8	818.0
50°	6887.8	5949.0	2829.9	951.0	874.1	941.3	914.4	893.6	858.2	811.8	807.0
52.5°	7632.6	6430.0	2672.4	846.0	811.8	913.2	921.7	924.2	891.2	800.9	794.8
55°	8432.1	6944.0	2506.3	764.3	760.6	899.7	938.7	936.4	920.5	803.3	793.6
57.5°	9192.7	7460.3	2258.5	706.8	720.2	886.3	942.5	903.3	875.2	815.5	799.7
60°	9822.6	7887.7	1894.7	666.6	686.1	859.5	918.0	859.5	811.8	813.1	798.3
62.5°	10129.1	8007.3	1449.1	620.1	658.1	815.5	882.6	826.4	782.6	818.0	809.4
65°	9895.9	7666.7	1032.8	577.4	623.9	764.3	861.9	798.3	767.9	842.4	832.5
67.5°	9058.3	6738.9	749.6	539.6	590.9	711.8	822.8	772.8	753.3	860.6	838.7
69°	8168.4	5818.4	649.4	517.7	567.7	683.6	797.1	759.4	742.2	835.1	803.3
70°	7428.6	5109.1	599.4	504.2	548.2	667.8	777.7	750.8	731.3	804.4	766.7
72.5°	5326.4	3302.3	504.2	464.0	496.9	632.4	734.9	719.0	689.8	726.3	702.0
75°	3218.0	1723.8	428.6	422.4	443.1	583.6	684.8	665.4	636.0	639.7	627.4
77.5°	1478.4	796.0	358.9	373.5	387.0	522.5	623.9	601.9	575.0	565.2	566.5
80°	648.2	465.1	300.4	318.6	325.9	470.1	557.9	533.5	504.2	556.6	516.4
82.5°	350.4	269.8	234.4	246.6	267.3	408.9	484.7	452.9	424.8	494.4	399.3
85°	141.6	138.0	158.8	170.9	185.5	294.2	405.4	372.3	338.1	302.7	295.4
87.5°	61.0	65.9	78.1	83.0	98.9	183.1	272.3	238.0	239.3	205.1	201.5
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)