

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: P195821

Luminaire Tested: **NAV-AF-05-D-UNV-T3-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195821
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-05-D-UNV-T3-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19817 lumens
Efficiency: N/A
Efficacy: 122.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

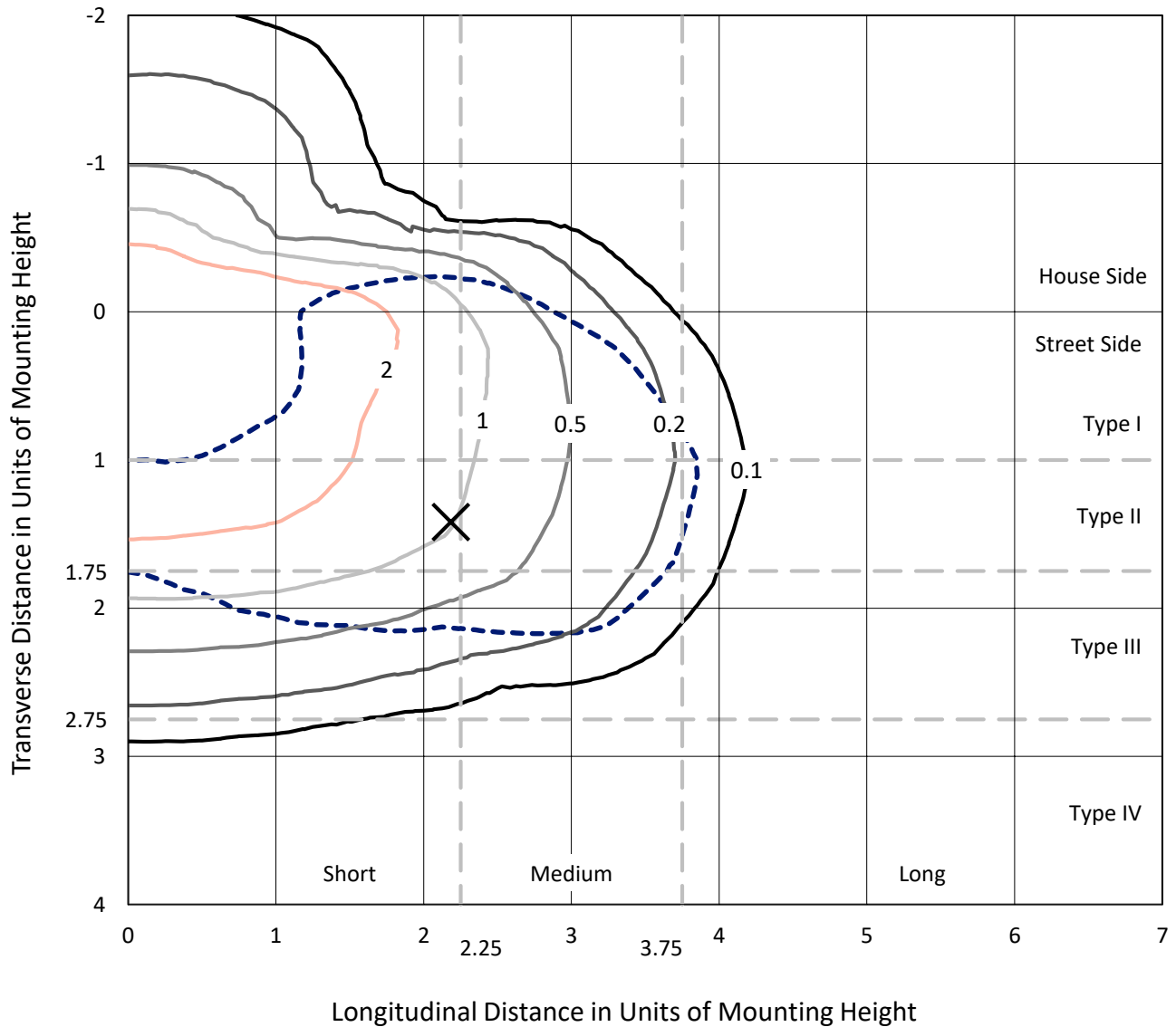
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

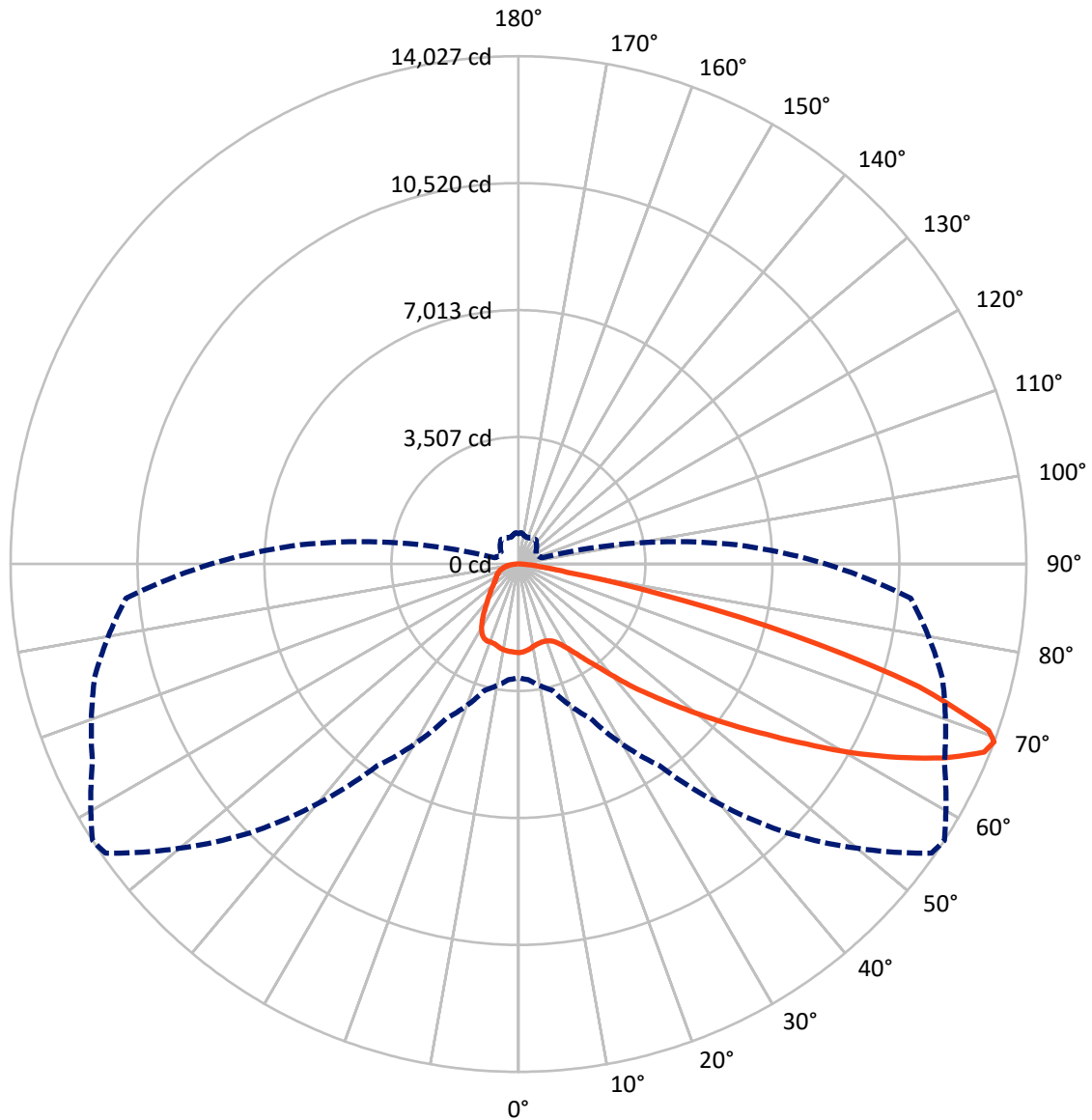
✕ Max cd
 - - - 1/2 Max cd



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	4372.9	0.0	4372.9
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	15444.1	0.0	15444.1
	% Fixture	77.9	0.0	77.9
Total	Lumens	19817.0	0.0	19817.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	229.2	1.2
10°-20°	651.8	3.3
20°-30°	1084.2	5.5
30°-40°	1770.5	8.9
40°-50°	2988.2	15.1
50°-60°	4648.3	23.5
60°-70°	5537.1	27.9
70°-80°	2579.6	13.0
80°-90°	328.1	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°	19817.0	100.0
0°-180°	19817.0	100.0



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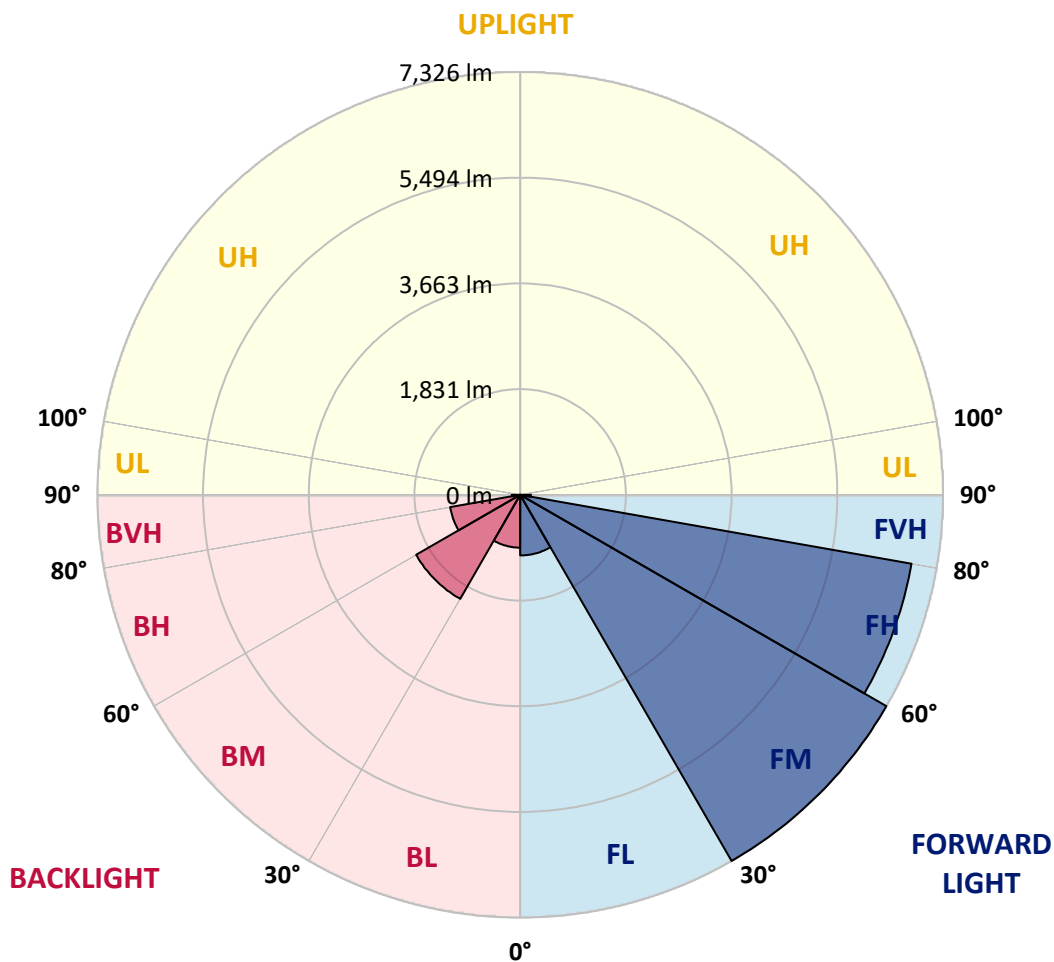
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1049.5	5.3			
FM	(30°-60°)	7325.7	37.0			
FH	(60°-80°)	6884.5	34.7			G3/7500
FVH	(80°-90°)	184.4	0.9			G2/225
BL	(0°-30°)	915.8	4.6	B2/1000		
BM	(30°-60°)	2081.3	10.5	B2/2500		
BH	(60°-80°)	1232.2	6.2	B3/2500		G3/2500
BVH	(80°-90°)	143.7	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°	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6
2.5°	2434.6	2434.6	2441.0	2441.0	2441.0	2438.4	2430.8	2433.4	2428.3	2424.5	2418.1
5°	2385.1	2387.7	2395.3	2397.8	2401.6	2402.9	2402.9	2401.6	2402.9	2402.9	2399.1
7.5°	2316.6	2319.2	2328.1	2333.1	2344.6	2354.7	2359.8	2359.8	2366.1	2371.2	2372.5
10°	2274.8	2274.8	2279.8	2279.8	2288.7	2293.8	2310.3	2309.0	2326.8	2343.3	2350.9
12.5°	2269.7	2269.7	2267.2	2258.3	2253.2	2251.9	2268.4	2271.0	2297.6	2326.8	2340.7
15°	2286.2	2286.2	2278.6	2260.8	2241.8	2232.9	2249.4	2254.5	2283.7	2317.9	2339.5
17.5°	2339.5	2338.2	2321.7	2286.2	2253.2	2239.2	2244.3	2249.4	2276.0	2315.4	2342.0
20°	2457.5	2457.5	2421.9	2357.2	2300.1	2267.2	2259.5	2263.4	2282.4	2319.2	2353.4
22.5°	2664.3	2668.1	2604.6	2498.1	2400.4	2330.6	2300.1	2304.0	2312.8	2348.4	2386.4
25°	2968.7	2958.6	2868.5	2717.5	2565.3	2446.0	2383.9	2387.7	2387.7	2420.7	2460.0
27.5°	3291.0	3293.5	3164.1	3001.7	2801.3	2623.7	2524.7	2523.4	2522.2	2553.9	2595.8
30°	3655.1	3656.4	3506.7	3318.9	3089.3	2862.2	2713.7	2712.5	2701.1	2740.4	2794.9
32.5°	4053.5	4052.2	3878.4	3666.5	3411.5	3154.0	2961.1	2959.9	2951.0	3004.3	3070.2
35°	4495.0	4495.0	4322.4	4061.1	3785.8	3499.1	3275.8	3274.5	3279.6	3351.9	3414.1
37.5°	5026.6	5038.0	4829.9	4512.8	4212.1	3906.3	3646.2	3638.6	3600.6	3722.4	3825.1
40°	5581.0	5612.7	5397.0	5026.6	4701.8	4385.9	4099.2	4094.1	4061.1	4190.5	4356.7
42.5°	6181.1	6253.4	6013.6	5635.5	5281.6	4940.3	4652.3	4638.4	4511.5	4713.2	4973.3
45°	6967.7	7014.6	6667.0	6324.5	5990.8	5601.3	5258.7	5183.9	5057.0	5315.8	5653.3
47.5°	7503.1	7480.2	7263.3	7033.7	6819.2	6446.2	5919.7	5824.6	5669.8	6012.4	6384.1
50°	7835.5	7852.0	7730.2	7718.7	7707.3	7447.2	6665.7	6551.5	6372.7	6778.6	7212.5
52.5°	8055.0	7980.1	8001.7	8260.5	8573.8	8449.5	7509.4	7382.5	7198.6	7604.6	8094.3
55°	7963.6	7864.6	8063.8	8573.8	9311.0	9338.9	8435.6	8304.9	8147.6	8482.5	9154.9
57.5°	7585.5	7635.0	7949.7	8658.9	9814.6	10135.6	9500.0	9366.8	9057.2	9397.2	10162.3
60°	7054.0	7154.2	7635.0	8524.4	10167.3	10756.0	10668.5	10579.7	10046.8	10287.9	11220.3
62.5°	6483.0	6582.0	7173.2	8294.7	10008.7	11305.4	11815.4	11760.8	11139.2	11145.5	11891.5
65°	5639.4	5680.0	6283.9	7668.0	9568.5	11801.4	12963.5	12915.3	12183.3	11877.5	12079.3
67.5°	4259.0	4309.8	4805.8	6052.9	8228.8	11532.4	13880.8	13873.2	12811.3	12149.0	11632.7
69°	3145.1	3207.3	3612.0	4699.3	6804.0	10507.3	13923.9	14026.7	12981.3	12121.1	10877.8
70°	2301.4	2372.5	2746.7	3730.0	5667.3	9375.7	13554.7	13775.5	12916.6	11944.8	10289.1
72.5°	978.2	1002.3	1186.2	1683.6	2874.9	5653.3	11102.4	11566.7	11665.7	10702.7	8038.5
75°	612.8	620.4	692.7	864.0	1278.8	2338.2	7189.7	7822.8	8709.6	8303.6	5381.8
77.5°	461.8	468.1	510.0	595.0	794.2	872.9	3335.4	3977.4	4988.5	4884.5	2678.2
80°	354.0	357.8	385.7	432.6	559.5	546.8	1082.2	1360.0	2081.9	1837.1	947.7
82.5°	277.8	279.1	303.2	312.1	390.8	367.9	543.0	605.2	841.1	699.1	463.1
85°	246.1	249.9	274.0	228.4	249.9	222.0	298.1	323.5	446.6	421.2	175.1
87.5°	125.6	131.9	229.6	195.4	125.6	105.3	130.7	140.8	181.4	196.6	85.0
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°	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6	2448.6
2.5°	2419.4	2420.7	2424.5	2430.8	2441.0	2453.7	2468.9	2484.1	2493.0	2499.3	2496.8
5°	2399.1	2400.4	2408.0	2419.4	2432.1	2451.1	2476.5	2495.5	2509.5	2518.4	2517.1
7.5°	2373.7	2377.5	2392.8	2405.4	2423.2	2438.4	2458.7	2476.5	2490.5	2499.3	2498.1
10°	2354.7	2358.5	2377.5	2394.0	2409.3	2411.8	2408.0	2402.9	2401.6	2408.0	2405.4
12.5°	2345.8	2353.4	2371.2	2382.6	2376.3	2352.2	2324.3	2312.8	2309.0	2321.7	2323.0
15°	2348.4	2354.7	2369.9	2362.3	2328.1	2287.5	2272.2	2281.1	2288.7	2296.3	2297.6
17.5°	2354.7	2358.5	2362.3	2334.4	2286.2	2259.5	2254.5	2245.6	2222.8	2210.1	2208.8
20°	2366.1	2371.2	2364.8	2320.4	2277.3	2241.8	2180.9	2126.3	2074.3	2046.4	2035.0
22.5°	2405.4	2409.3	2390.2	2347.1	2281.1	2165.7	2042.6	1948.7	1868.8	1825.7	1809.2
25°	2482.8	2489.2	2462.5	2408.0	2235.4	2033.7	1859.9	1733.0	1632.8	1580.8	1566.8
27.5°	2618.6	2624.9	2595.8	2453.7	2128.9	1857.4	1646.8	1521.2	1434.9	1390.5	1384.1
30°	2821.6	2830.5	2803.8	2452.4	1966.5	1632.8	1438.7	1365.1	1315.6	1285.2	1283.9
32.5°	3103.2	3136.2	3027.1	2409.3	1766.0	1405.7	1281.4	1256.0	1231.9	1211.6	1211.6
35°	3461.0	3538.4	3247.9	2319.2	1545.3	1250.9	1193.8	1169.7	1139.3	1117.7	1115.2
37.5°	3888.6	4009.1	3405.2	2159.3	1355.0	1176.1	1140.6	1101.2	1053.0	1011.2	1001.0
40°	4476.0	4503.9	3482.6	1899.2	1212.9	1135.5	1091.1	1041.6	980.7	933.8	928.7
42.5°	5065.9	4974.6	3467.3	1620.1	1131.7	1098.7	1040.3	985.8	931.2	891.9	891.9
45°	5737.0	5385.6	3351.9	1339.7	1058.1	1056.8	993.4	941.4	899.5	870.3	864.0
47.5°	6379.0	5754.8	3152.7	1132.9	982.0	1015.0	962.9	921.1	883.0	855.1	850.0
50°	7158.0	6182.4	2940.8	988.3	908.4	978.2	950.3	928.7	891.9	843.7	838.6
52.5°	7931.9	6682.2	2777.2	879.2	843.7	949.0	957.9	960.4	926.1	832.3	825.9
55°	8762.9	7216.3	2604.6	794.2	790.4	935.0	975.6	973.1	956.6	834.8	824.7
57.5°	9553.3	7753.0	2347.1	734.6	748.5	921.1	979.4	938.8	909.7	847.5	831.0
60°	10207.9	8197.0	1969.0	692.7	713.0	893.2	954.1	893.2	843.7	845.0	829.7
62.5°	10526.4	8321.4	1505.9	644.5	683.8	847.5	917.3	858.9	813.2	850.0	841.1
65°	10284.1	7967.4	1073.3	600.1	648.3	794.2	895.7	829.7	798.0	875.4	865.3
67.5°	9413.7	7003.2	779.0	560.8	614.0	739.6	855.1	803.1	782.8	894.4	871.6
69°	8488.8	6046.6	674.9	537.9	589.9	710.5	828.5	789.1	771.4	867.8	834.8
70°	7720.0	5309.5	622.9	524.0	569.6	694.0	808.2	780.2	759.9	836.1	796.7
72.5°	5535.3	3431.8	524.0	482.1	516.4	657.2	763.8	747.3	716.8	754.9	729.5
75°	3344.3	1791.4	445.3	439.0	460.5	606.4	711.7	691.4	661.0	664.8	652.1
77.5°	1536.4	827.2	373.0	388.2	402.2	543.0	648.3	625.5	597.6	587.4	588.7
80°	673.7	483.4	312.1	331.1	338.7	488.4	579.8	554.4	524.0	578.5	536.7
82.5°	364.1	280.4	243.6	256.3	277.8	425.0	503.7	470.7	441.5	513.8	414.9
85°	147.2	143.4	164.9	177.6	192.8	305.8	421.2	387.0	351.4	314.6	307.0
87.5°	63.4	68.5	81.2	86.3	102.8	190.3	282.9	247.4	248.7	213.1	209.3
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)