

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: P195389

Luminaire Tested: **NAV-AF-05-D-UNV-T4FT-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195389
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19968 lumens
Efficiency: N/A
Efficacy: 123.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

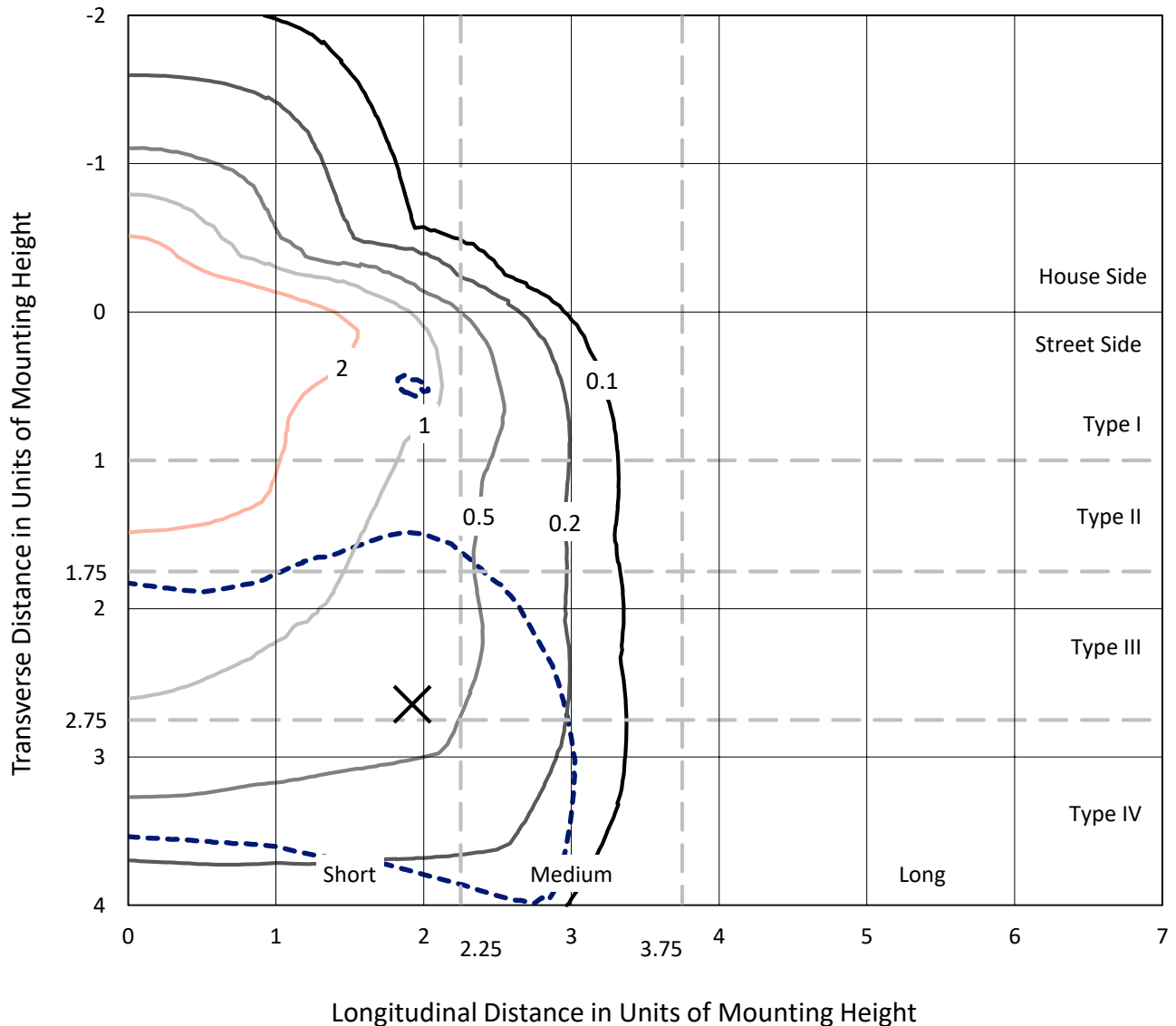
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

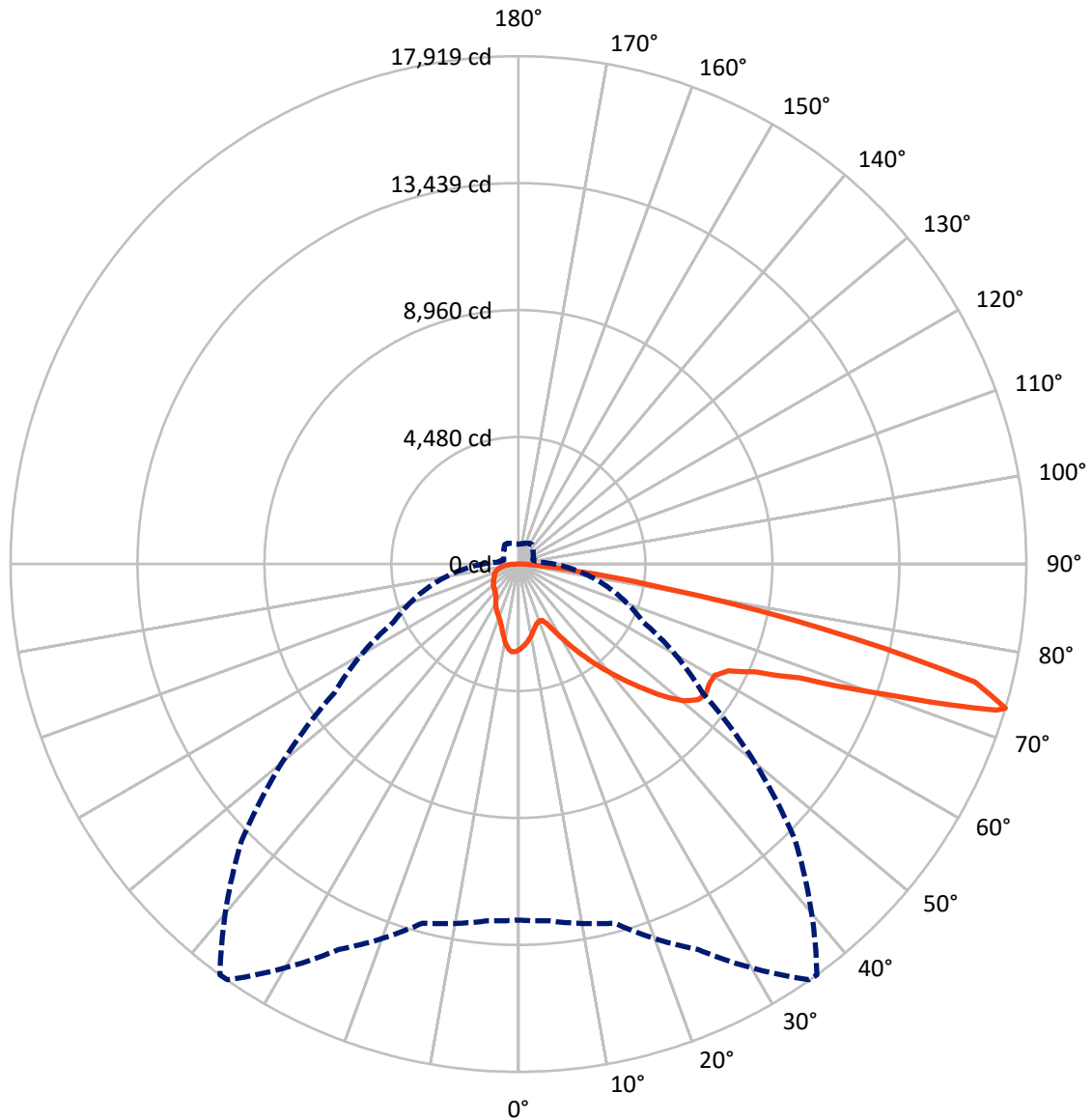
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3850.4	0.0	3850.4
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	16117.6	0.0	16117.6
	% Fixture	80.7	0.0	80.7
Total	Lumens	19968.0	0.0	19968.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	274.7	1.4
10°-20°	690.0	3.5
20°-30°	1106.2	5.5
30°-40°	1829.7	9.2
40°-50°	2831.3	14.2
50°-60°	3790.3	19.0
60°-70°	4951.3	24.8
70°-80°	4044.3	20.3
80°-90°	450.2	2.3
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°	19968.0	100.0
0°-180°	19968.0	100.0

Coefficient of Utilization



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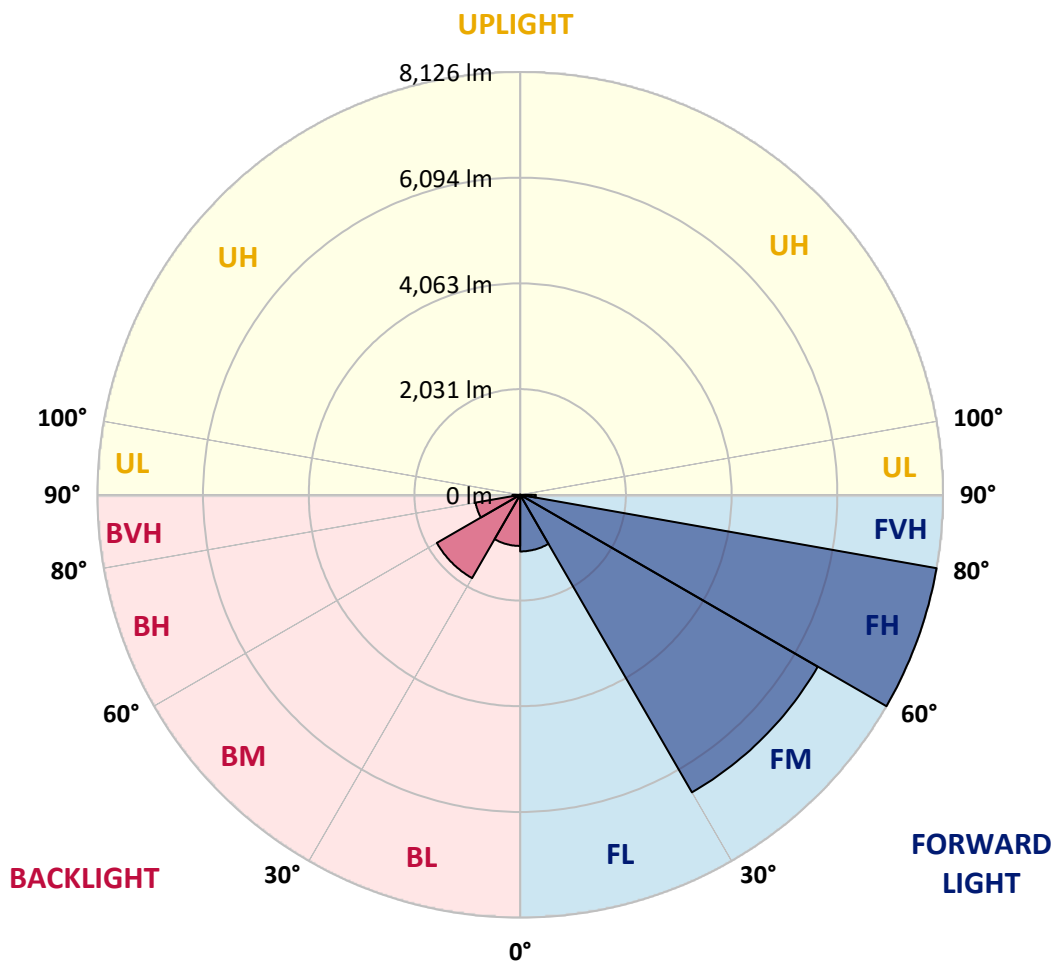
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1088.0	5.4			
FM	(30°-60°)	6602.1	33.1			
FH	(60°-80°)	8125.5	40.7			G4/12000
FVH	(80°-90°)	301.9	1.5			G3/500
BL	(0°-30°)	982.9	4.9	B2/1000		
BM	(30°-60°)	1849.2	9.3	B2/2500		
BH	(60°-80°)	870.1	4.4	B2/1000		G2/1000
BVH	(80°-90°)	148.3	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6
2.5°	2909.1	2916.7	2918.0	2926.9	2926.9	2925.6	2929.4	2944.6	2952.3	2970.0	2985.2
5°	2765.8	2774.6	2778.4	2793.7	2812.7	2814.0	2827.9	2857.1	2885.0	2924.3	2957.3
7.5°	2604.6	2614.8	2624.9	2656.6	2684.6	2687.1	2713.7	2760.7	2797.5	2845.7	2905.3
10°	2448.6	2451.1	2461.3	2501.9	2538.7	2542.5	2580.5	2633.8	2683.3	2750.5	2817.8
12.5°	2320.4	2328.1	2325.5	2356.0	2387.7	2390.2	2441.0	2508.2	2580.5	2656.6	2736.6
15°	2276.0	2274.8	2248.1	2246.9	2260.8	2263.4	2312.8	2391.5	2472.7	2566.6	2669.3
17.5°	2306.5	2296.3	2226.6	2183.4	2174.5	2177.1	2213.9	2300.1	2386.4	2494.3	2617.3
20°	2474.0	2434.6	2271.0	2166.9	2137.8	2137.8	2159.3	2229.1	2324.3	2449.9	2604.6
22.5°	2871.1	2810.2	2461.3	2276.0	2173.3	2163.1	2146.6	2199.9	2305.2	2456.2	2656.6
25°	3370.9	3341.7	2810.2	2566.6	2354.7	2321.7	2212.6	2231.6	2344.6	2524.7	2798.7
27.5°	3834.0	3783.3	3268.2	2989.0	2689.6	2638.9	2408.0	2330.6	2438.4	2651.6	3004.3
30°	4104.2	4070.0	3738.8	3472.4	3115.9	3051.2	2720.1	2526.0	2605.9	2860.9	3296.1
32.5°	4398.6	4378.3	4210.8	3968.5	3577.7	3502.9	3123.5	2844.4	2862.2	3138.8	3647.5
35°	4684.0	4710.7	4615.5	4437.9	4075.1	4005.3	3665.3	3260.5	3178.1	3450.9	4023.0
37.5°	5026.6	5032.9	4973.3	4857.8	4597.8	4540.7	4260.3	3704.6	3521.9	3783.3	4385.9
40°	5710.4	5610.2	5376.7	5285.4	5130.6	5095.1	4775.4	4111.8	3841.6	4124.5	4728.4
42.5°	6450.1	6294.0	5928.6	5778.9	5716.7	5683.8	5204.2	4383.3	4141.0	4465.8	5064.6
45°	7046.3	6919.5	6561.7	6376.5	6384.1	6330.8	5578.5	4625.7	4465.8	4808.4	5440.2
47.5°	7633.7	7421.9	7021.0	6994.3	7083.1	7004.5	5936.2	4868.0	4804.6	5181.4	5815.7
50°	7671.8	7479.0	7316.6	7529.7	7682.0	7584.3	6261.0	5185.2	5156.0	5633.0	6300.3
52.5°	7208.7	7180.8	7428.2	7787.3	8039.7	7952.2	6526.2	5511.2	5515.0	6197.6	6890.3
55°	7040.0	7004.5	7301.3	7742.9	8084.1	8032.1	6724.1	5879.1	5913.4	6882.7	7523.4
57.5°	7324.2	7235.4	7293.7	7659.1	7980.1	7949.6	6929.6	6287.7	6349.8	7671.8	8108.2
60°	8205.9	8024.5	7714.9	7783.5	7983.9	7966.1	7224.0	6743.1	6847.2	8493.9	8478.7
62.5°	9526.6	9321.1	8690.6	8386.1	8341.7	8307.4	7709.9	7302.6	7354.6	9087.7	8263.0
65°	10975.5	10754.7	10004.9	9506.3	9245.0	9171.4	8493.9	7977.6	7651.5	9086.4	7423.1
67.5°	12602.0	12368.5	11621.3	11145.5	10862.6	10737.0	9766.4	8523.1	7555.1	8317.6	5940.0
70°	14267.8	14045.7	13703.2	13869.4	13993.7	13802.1	11771.0	8704.5	6862.4	6521.1	3988.8
72.5°	13383.5	13365.7	13625.8	15201.5	17598.1	17636.1	13773.0	8192.0	5301.9	3875.9	2126.3
73°	12562.6	12637.5	13119.6	15004.9	17906.4	17919.1	13812.3	7926.8	4868.0	3339.2	1867.5
75°	6508.4	7015.9	8804.8	12166.8	16580.6	16640.2	12175.7	6000.9	2901.5	1854.8	1258.5
77.5°	1743.2	1720.4	2836.8	5927.3	11054.1	10975.5	7693.4	2905.3	1390.5	1163.4	883.0
80°	597.6	605.2	965.5	2168.2	5159.8	5343.7	3339.2	1267.4	914.7	810.7	625.5
82.5°	304.5	314.6	504.9	922.3	2158.1	2112.4	1074.6	746.0	612.8	492.3	350.2
85°	162.4	167.5	277.8	478.3	791.7	800.5	378.1	398.4	389.5	279.1	172.5
87.5°	79.9	82.5	133.2	210.6	293.1	282.9	131.9	172.5	191.6	157.3	95.2
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°	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6	3024.6
2.5°	3004.3	3004.3	3020.8	3048.7	3069.0	3088.0	3100.7	3121.0	3132.4	3131.1	3129.9
5°	2984.0	2996.7	3029.6	3063.9	3086.7	3102.0	3102.0	3110.8	3110.8	3107.0	3102.0
7.5°	2937.0	2958.6	3006.8	3037.3	3043.6	3027.1	2994.1	2968.7	2937.0	2920.5	2914.2
10°	2862.2	2890.1	2951.0	2964.9	2932.0	2873.6	2793.7	2725.2	2664.3	2636.4	2627.5
12.5°	2788.6	2825.4	2882.5	2860.9	2782.3	2668.1	2545.0	2451.1	2382.6	2356.0	2347.1
15°	2727.7	2772.1	2816.5	2749.3	2612.2	2453.7	2317.9	2230.4	2178.4	2158.1	2153.0
17.5°	2687.1	2739.1	2754.3	2628.7	2438.4	2260.8	2140.3	2083.2	2060.4	2051.5	2048.9
20°	2689.6	2748.0	2711.2	2512.0	2271.0	2092.1	2012.2	1995.7	1995.7	1995.7	1994.4
22.5°	2759.4	2810.2	2693.4	2402.9	2109.8	1950.0	1915.7	1929.7	1939.8	1939.8	1938.6
25°	2904.0	2932.0	2706.1	2297.6	1958.9	1826.9	1828.2	1854.8	1863.7	1863.7	1861.2
27.5°	3124.8	3102.0	2729.0	2180.9	1810.4	1715.3	1733.0	1757.1	1763.5	1759.7	1758.4
30°	3401.4	3310.0	2748.0	2043.9	1670.9	1611.2	1626.5	1640.4	1635.3	1626.5	1625.2
32.5°	3710.9	3521.9	2736.6	1890.4	1547.8	1503.4	1512.3	1519.9	1512.3	1490.7	1490.7
35°	4018.0	3713.5	2674.4	1722.9	1450.1	1399.4	1398.1	1422.2	1420.9	1395.6	1396.8
37.5°	4286.9	3864.4	2553.9	1569.4	1366.4	1323.2	1328.3	1343.5	1351.2	1316.9	1313.1
40°	4521.6	3968.5	2383.9	1438.7	1299.1	1301.7	1287.7	1263.6	1254.7	1239.5	1237.0
42.5°	4742.4	4040.8	2203.7	1329.6	1264.9	1294.1	1247.1	1190.0	1165.9	1179.9	1188.8
45°	4959.3	4122.0	2029.9	1239.5	1221.8	1271.2	1206.5	1143.1	1115.2	1121.5	1130.4
47.5°	5224.5	4234.9	1820.6	1143.1	1155.8	1229.4	1181.2	1112.6	1070.8	1045.4	1037.8
50°	5573.4	4398.6	1549.1	1039.1	1086.0	1183.7	1159.6	1068.2	1022.6	971.8	959.1
52.5°	6009.8	4553.3	1275.0	955.3	1028.9	1144.4	1124.1	1030.2	974.4	913.5	903.3
55°	6445.0	4574.9	1039.1	883.0	964.2	1091.1	1080.9	999.7	921.1	871.6	861.4
57.5°	6749.5	4370.7	880.5	822.1	902.0	1025.1	1041.6	962.9	876.7	838.6	832.3
60°	6754.5	3882.2	784.1	781.5	855.1	968.0	1001.0	919.8	848.8	823.4	818.3
62.5°	6217.9	3128.6	721.9	751.1	820.8	921.1	970.6	895.7	842.4	832.3	827.2
65°	5211.8	2311.6	672.4	723.2	789.1	881.7	945.2	888.1	839.9	836.1	832.3
67.5°	3848.0	1584.6	630.5	687.6	753.6	841.1	921.1	876.7	824.7	839.9	834.8
70°	2420.7	1058.1	591.2	647.0	706.7	794.2	889.4	856.4	805.6	796.7	780.2
72.5°	1366.4	765.0	544.3	595.0	645.8	732.0	846.2	822.1	762.5	727.0	710.5
73°	1234.4	724.4	532.9	582.3	631.8	719.4	836.1	812.0	749.8	710.5	695.2
75°	903.3	592.5	480.8	530.3	573.5	661.0	787.9	761.2	694.0	647.0	636.9
77.5°	654.6	456.7	413.6	458.0	496.1	579.8	715.5	685.1	619.1	593.7	583.6
80°	472.0	346.4	342.5	385.7	418.7	503.7	638.2	606.4	543.0	617.9	601.4
82.5°	281.7	222.0	251.2	299.4	333.7	422.5	554.4	517.6	456.7	461.8	393.3
85°	134.5	125.6	156.0	196.6	220.8	289.3	461.8	432.6	365.4	299.4	293.1
87.5°	59.6	57.1	74.9	87.5	118.0	173.8	315.9	280.4	265.2	158.6	124.3
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)