

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: P197315

Luminaire Tested: **NAV-AF-05-D-UNV-T4FT-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197315
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-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 800mA 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: 19981 lumens
Efficiency: N/A
Efficacy: 95.1 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

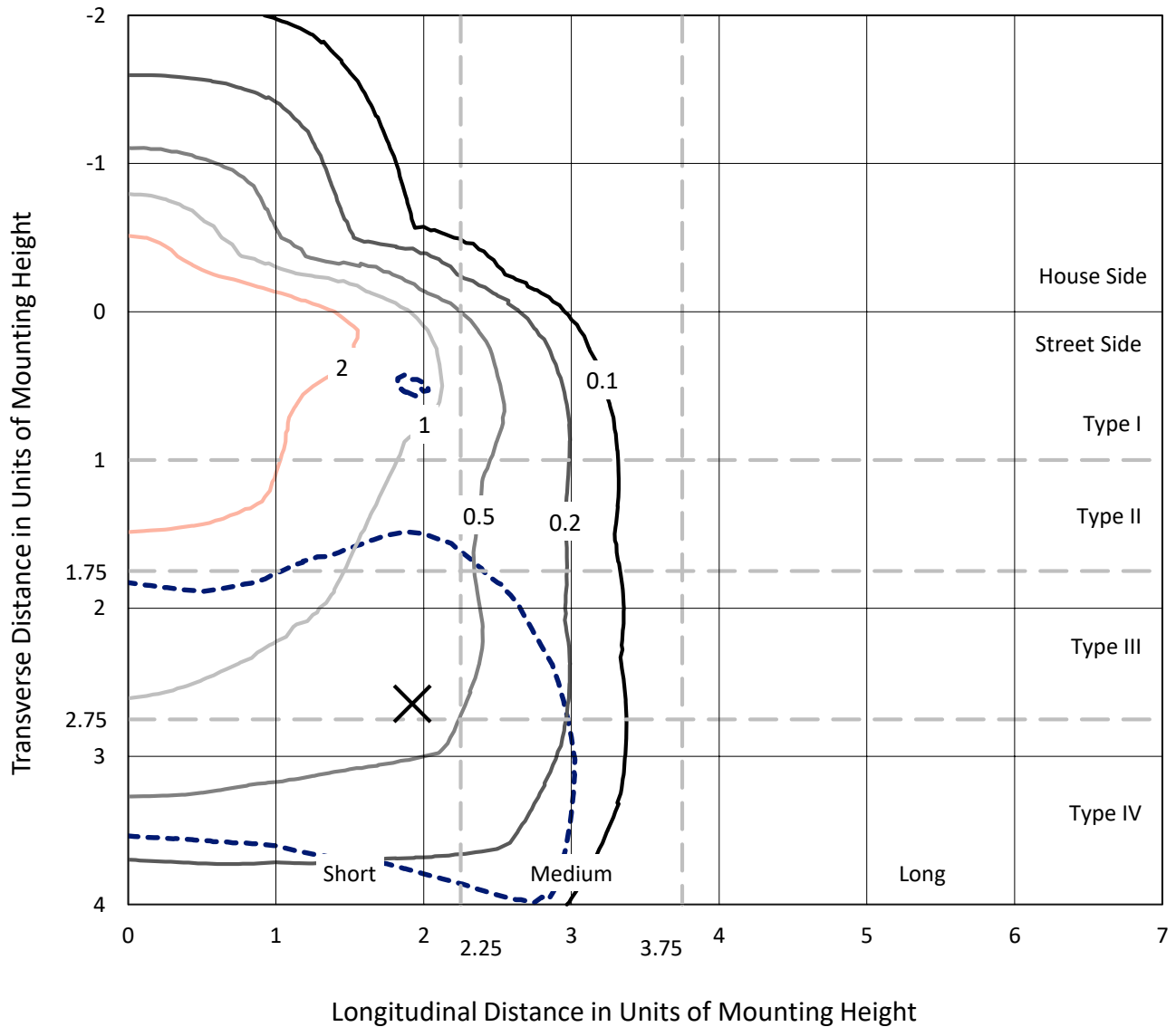
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

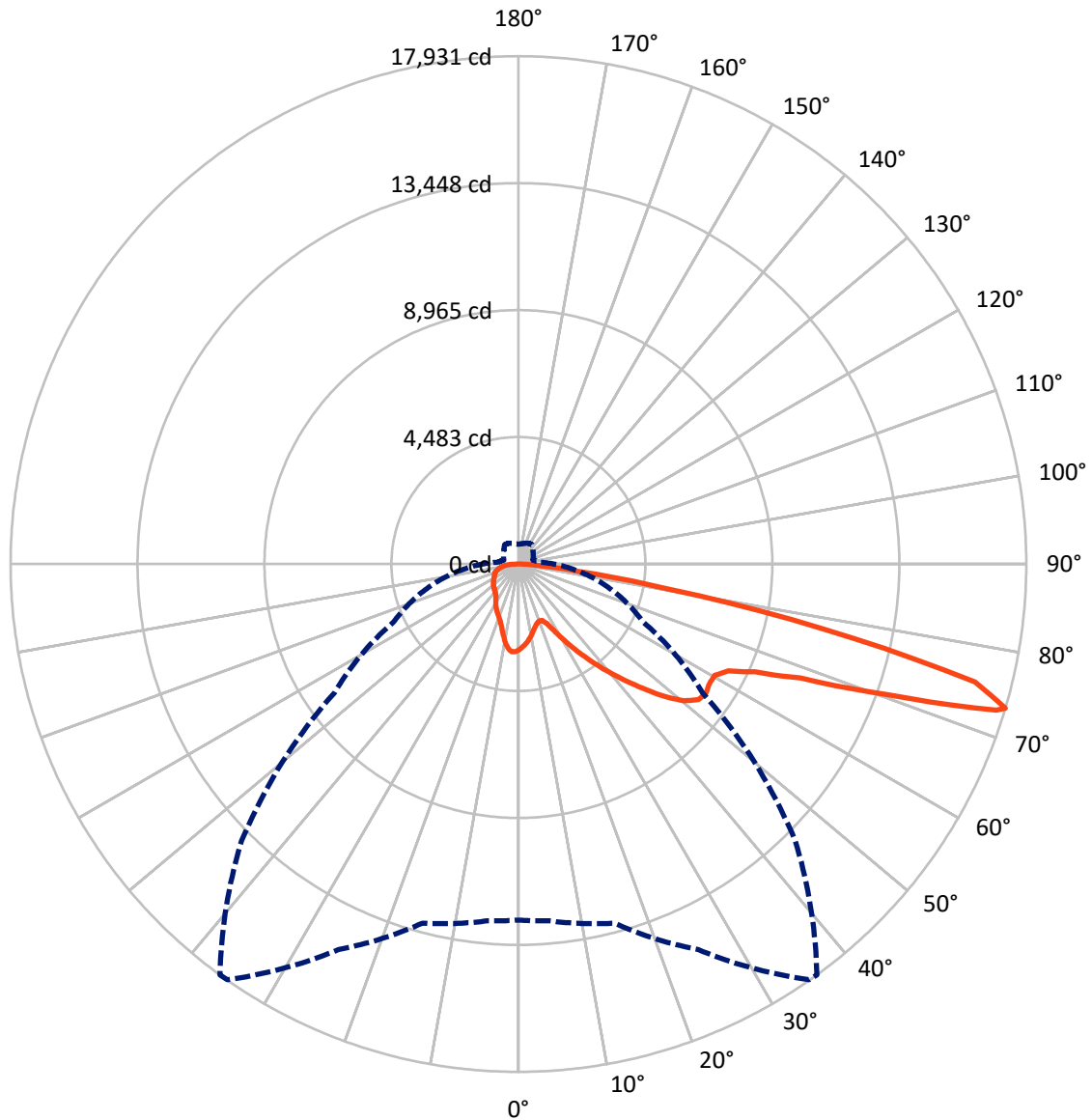
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.8 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	3852.9	0.0	3852.9
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	16128.1	0.0	16128.1
	% Fixture	80.7	0.0	80.7
Total	Lumens	19981.0	0.0	19981.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	274.9	1.4
10°-20°	690.4	3.5
20°-30°	1106.9	5.5
30°-40°	1830.9	9.2
40°-50°	2833.1	14.2
50°-60°	3792.7	19.0
60°-70°	4954.5	24.8
70°-80°	4047.0	20.3
80°-90°	450.5	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°	19981.0	100.0
0°-180°	19981.0	100.0

Coefficient of Utilization



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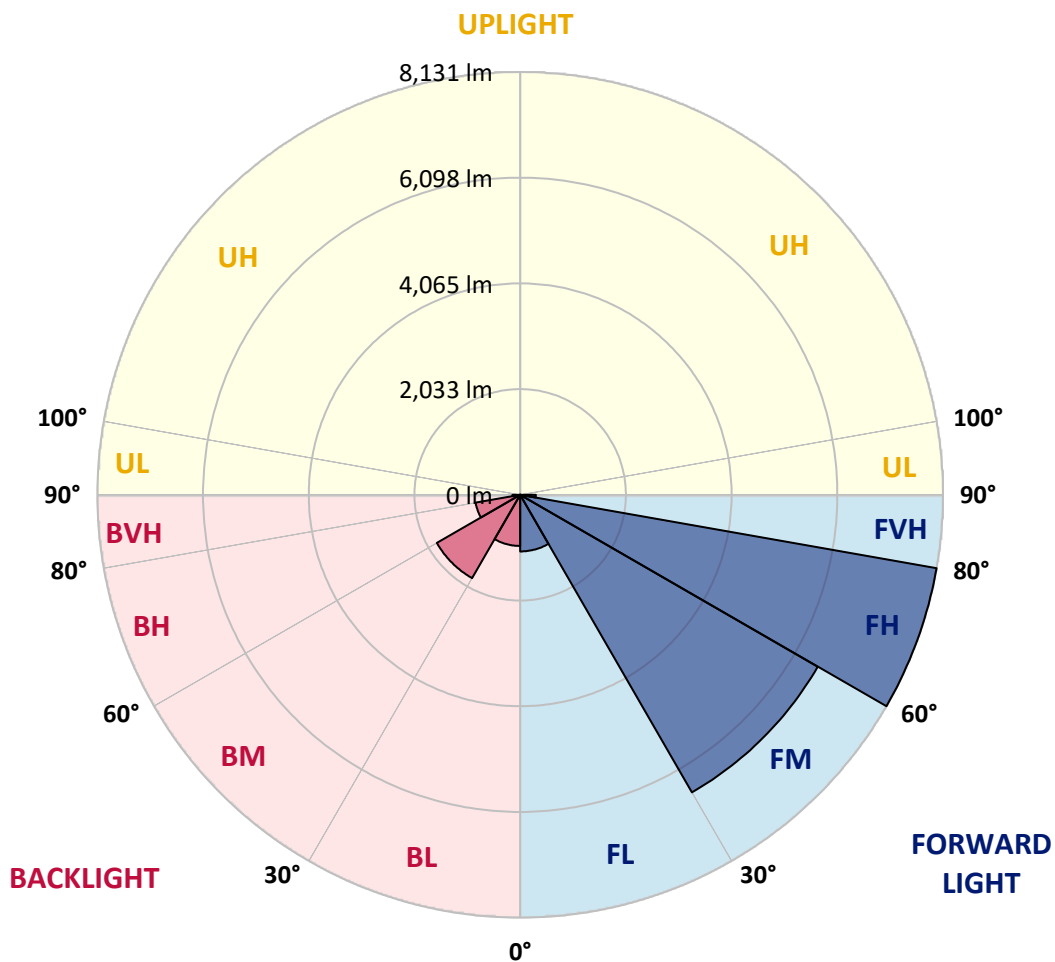
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1088.7	5.4			
FM (30°-60°)	6606.4	33.1			
FH (60°-80°)	8130.8	40.7			G4/12000
FVH (80°-90°)	302.1	1.5			G3/500
BL (0°-30°)	983.5	4.9	B2/1000		
BM (30°-60°)	1850.4	9.3	B2/2500		
BH (60°-80°)	870.7	4.4	B2/1000		G2/1000
BVH (80°-90°)	148.4	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°	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5
2.5°	2911.0	2918.6	2919.9	2928.8	2928.8	2927.5	2931.3	2946.6	2954.2	2972.0	2987.2
5°	2767.6	2776.4	2780.3	2795.5	2814.5	2815.8	2829.8	2859.0	2886.9	2926.2	2959.3
7.5°	2606.3	2616.5	2626.6	2658.4	2686.3	2688.8	2715.5	2762.5	2799.3	2847.5	2907.2
10°	2450.2	2452.7	2462.9	2503.5	2540.3	2544.1	2582.2	2635.5	2685.0	2752.3	2819.6
12.5°	2322.0	2329.6	2327.0	2357.5	2389.2	2391.8	2442.6	2509.8	2582.2	2658.4	2738.4
15°	2277.5	2276.3	2249.6	2248.3	2262.3	2264.8	2314.3	2393.0	2474.3	2568.2	2671.1
17.5°	2308.0	2297.8	2228.0	2184.8	2176.0	2178.5	2215.3	2301.6	2388.0	2495.9	2619.0
20°	2475.6	2436.2	2272.4	2168.3	2139.1	2139.1	2160.7	2230.6	2325.8	2451.4	2606.3
22.5°	2872.9	2812.0	2462.9	2277.5	2174.7	2164.5	2148.0	2201.4	2306.7	2457.8	2658.4
25°	3373.1	3343.9	2812.0	2568.2	2356.2	2323.2	2214.0	2233.1	2346.1	2526.3	2800.6
27.5°	3836.5	3785.7	3270.3	2991.0	2691.4	2640.6	2409.6	2332.1	2440.0	2653.3	3006.2
30°	4106.9	4072.6	3741.3	3474.7	3117.9	3053.2	2721.9	2527.6	2607.6	2862.8	3298.2
32.5°	4401.4	4381.1	4213.5	3971.1	3580.1	3505.2	3125.6	2846.3	2864.0	3140.8	3649.9
35°	4687.1	4713.7	4618.5	4440.8	4077.7	4007.9	3667.6	3262.7	3180.2	3453.1	4025.7
37.5°	5029.8	5036.2	4976.5	4861.0	4600.7	4543.6	4263.1	3707.0	3524.2	3785.7	4388.7
40°	5714.1	5613.8	5380.2	5288.8	5133.9	5098.4	4778.5	4114.5	3844.1	4127.2	4731.5
42.5°	6454.2	6298.1	5932.5	5782.7	5720.5	5687.5	5207.6	4386.2	4143.7	4468.7	5067.9
45°	7050.9	6924.0	6566.0	6380.6	6388.2	6334.9	5582.1	4628.7	4468.7	4811.5	5443.7
47.5°	7638.7	7426.7	7025.5	6998.9	7087.7	7009.0	5940.1	4871.2	4807.7	5184.7	5819.5
50°	7676.8	7483.8	7321.3	7534.6	7687.0	7589.2	6265.1	5188.5	5159.3	5636.7	6304.4
52.5°	7213.4	7185.5	7433.1	7792.3	8045.0	7957.4	6530.4	5514.8	5518.6	6201.6	6894.8
55°	7044.6	7009.0	7306.1	7747.9	8089.4	8037.3	6728.5	5883.0	5917.2	6887.2	7528.3
57.5°	7329.0	7240.1	7298.5	7664.1	7985.3	7954.8	6934.1	6291.8	6354.0	7676.8	8113.5
60°	8211.3	8029.7	7720.0	7788.5	7989.1	7971.3	7228.7	6747.5	6851.6	8499.4	8484.2
62.5°	9532.8	9327.2	8696.2	8391.5	8347.1	8312.8	7714.9	7307.4	7359.4	9093.6	8268.4
65°	10982.6	10761.7	10011.5	9512.5	9251.0	9177.4	8499.4	7982.8	7656.5	9092.3	7428.0
67.5°	12610.2	12376.6	11628.8	11152.8	10869.6	10744.0	9772.8	8528.6	7560.0	8323.0	5943.9
70°	14277.0	14054.9	13712.1	13878.4	14002.8	13811.1	11778.6	8710.2	6866.8	6525.3	3991.4
72.5°	13392.2	13374.4	13634.7	15211.4	17609.5	17647.6	13781.9	8197.3	5305.3	3878.4	2127.7
73°	12570.8	12645.7	13128.1	15014.6	17918.0	17930.7	13821.3	7932.0	4871.2	3341.4	1868.7
75°	6512.6	7020.5	8810.5	12174.7	16591.4	16651.1	12183.6	6004.8	2903.4	1856.0	1259.4
77.5°	1744.3	1721.5	2838.7	5931.2	11061.3	10982.6	7698.4	2907.2	1391.4	1164.2	883.6
80°	597.9	605.6	966.1	2169.6	5163.1	5347.2	3341.4	1268.3	915.3	811.2	625.9
82.5°	304.7	314.8	505.3	922.9	2159.5	2113.8	1075.3	746.5	613.2	492.6	350.4
85°	162.5	167.6	278.0	478.6	792.2	801.1	378.3	398.6	389.7	279.3	172.7
87.5°	80.0	82.5	133.3	210.7	293.3	283.1	132.0	172.7	191.7	157.4	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°	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5	3026.5
2.5°	3006.2	3006.2	3022.7	3050.7	3071.0	3090.0	3102.7	3123.0	3134.4	3133.2	3131.9
5°	2985.9	2998.6	3031.6	3065.9	3088.7	3104.0	3104.0	3112.9	3112.9	3109.1	3104.0
7.5°	2938.9	2960.5	3008.8	3039.2	3045.6	3029.1	2996.1	2970.7	2938.9	2922.4	2916.1
10°	2864.0	2892.0	2952.9	2966.9	2933.9	2875.5	2795.5	2726.9	2666.0	2638.1	2629.2
12.5°	2790.4	2827.2	2884.4	2862.8	2784.1	2669.8	2546.7	2452.7	2384.2	2357.5	2348.6
15°	2729.5	2773.9	2818.3	2751.1	2613.9	2455.3	2319.4	2231.8	2179.8	2159.5	2154.4
17.5°	2688.8	2740.9	2756.1	2630.4	2440.0	2262.3	2141.7	2084.6	2061.7	2052.8	2050.3
20°	2691.4	2749.8	2713.0	2513.7	2272.4	2093.4	2013.5	1997.0	1997.0	1997.0	1995.7
22.5°	2761.2	2812.0	2695.2	2404.5	2111.2	1951.3	1917.0	1930.9	1941.1	1941.1	1939.8
25°	2905.9	2933.9	2707.9	2299.1	1960.1	1828.1	1829.4	1856.0	1864.9	1864.9	1862.4
27.5°	3126.8	3104.0	2730.7	2182.3	1811.6	1716.4	1734.2	1758.3	1764.6	1760.8	1759.6
30°	3403.6	3312.2	2749.8	2045.2	1672.0	1612.3	1627.5	1641.5	1636.4	1627.5	1626.3
32.5°	3713.4	3524.2	2738.4	1891.6	1548.8	1504.4	1513.3	1520.9	1513.3	1491.7	1491.7
35°	4020.6	3715.9	2676.2	1724.0	1451.1	1400.3	1399.0	1423.1	1421.9	1396.5	1397.7
37.5°	4289.7	3867.0	2555.5	1570.4	1367.3	1324.1	1329.2	1344.4	1352.0	1317.8	1314.0
40°	4524.6	3971.1	2385.4	1439.6	1300.0	1302.5	1288.6	1264.4	1255.6	1240.3	1237.8
42.5°	4745.5	4043.4	2205.2	1330.5	1265.7	1294.9	1247.9	1190.8	1166.7	1180.7	1189.5
45°	4962.6	4124.7	2031.2	1240.3	1222.5	1272.1	1207.3	1143.8	1115.9	1122.3	1131.1
47.5°	5227.9	4237.7	1821.8	1143.8	1156.5	1230.2	1181.9	1113.4	1071.5	1046.1	1038.5
50°	5577.0	4401.4	1550.1	1039.7	1086.7	1184.5	1160.3	1068.9	1023.2	972.5	959.8
52.5°	6013.7	4556.3	1275.9	956.0	1029.6	1145.1	1124.8	1030.9	975.0	914.1	903.9
55°	6449.2	4577.9	1039.7	883.6	964.8	1091.8	1081.6	1000.4	921.7	872.2	862.0
57.5°	6753.9	4373.5	881.0	822.7	902.6	1025.8	1042.3	963.6	877.2	839.2	832.8
60°	6758.9	3884.7	784.6	782.0	855.7	968.6	1001.7	920.4	849.3	823.9	818.8
62.5°	6221.9	3130.6	722.4	751.6	821.4	921.7	971.2	896.3	843.0	832.8	827.7
65°	5215.2	2313.1	672.8	723.6	789.6	882.3	945.8	888.7	840.4	836.6	832.8
67.5°	3850.5	1585.6	631.0	688.1	754.1	841.7	921.7	877.2	825.2	840.4	835.3
70°	2422.2	1058.8	591.6	647.5	707.1	794.7	889.9	856.9	806.1	797.3	780.8
72.5°	1367.3	765.5	544.6	595.4	646.2	732.5	846.8	822.7	763.0	727.4	710.9
73°	1235.2	724.9	533.2	582.7	632.2	719.8	836.6	812.5	750.3	710.9	695.7
75°	903.9	592.9	481.1	530.7	573.8	661.4	788.4	761.7	694.4	647.5	637.3
77.5°	655.1	457.0	413.9	458.3	496.4	580.2	716.0	685.5	619.5	594.1	584.0
80°	472.3	346.6	342.8	385.9	418.9	504.0	638.6	606.8	543.4	618.3	601.8
82.5°	281.8	222.2	251.4	299.6	333.9	422.8	554.8	518.0	457.0	462.1	393.6
85°	134.6	125.7	156.2	196.8	220.9	289.5	462.1	432.9	365.6	299.6	293.3
87.5°	59.7	57.1	74.9	87.6	118.1	173.9	316.1	280.6	265.3	158.7	124.4
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)