

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: P270560

Luminaire Tested: **NAV-AF-04-D-UNV-T4W-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270560
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22978.5 lumens
Efficiency: N/A
Efficacy: 89.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

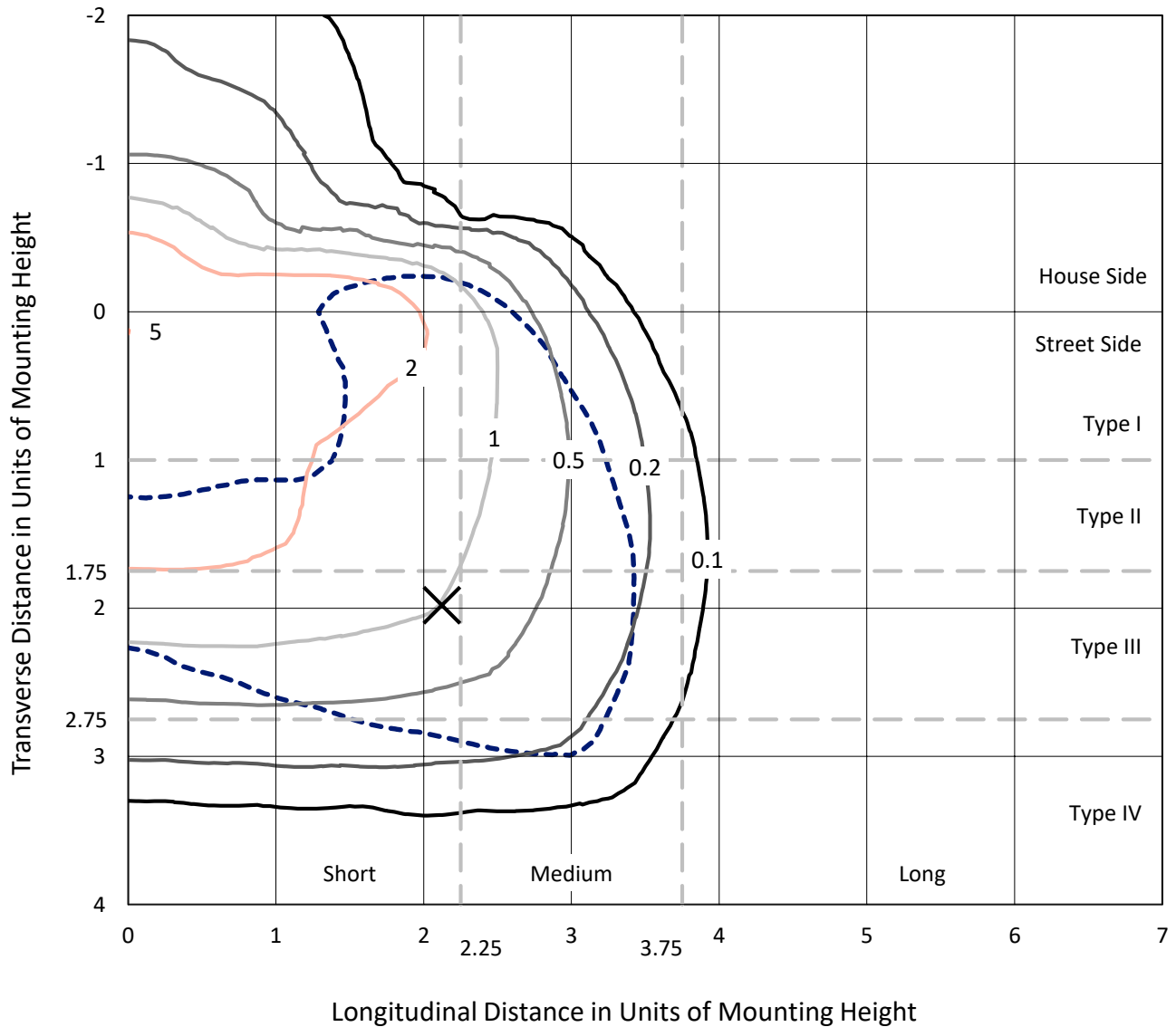
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

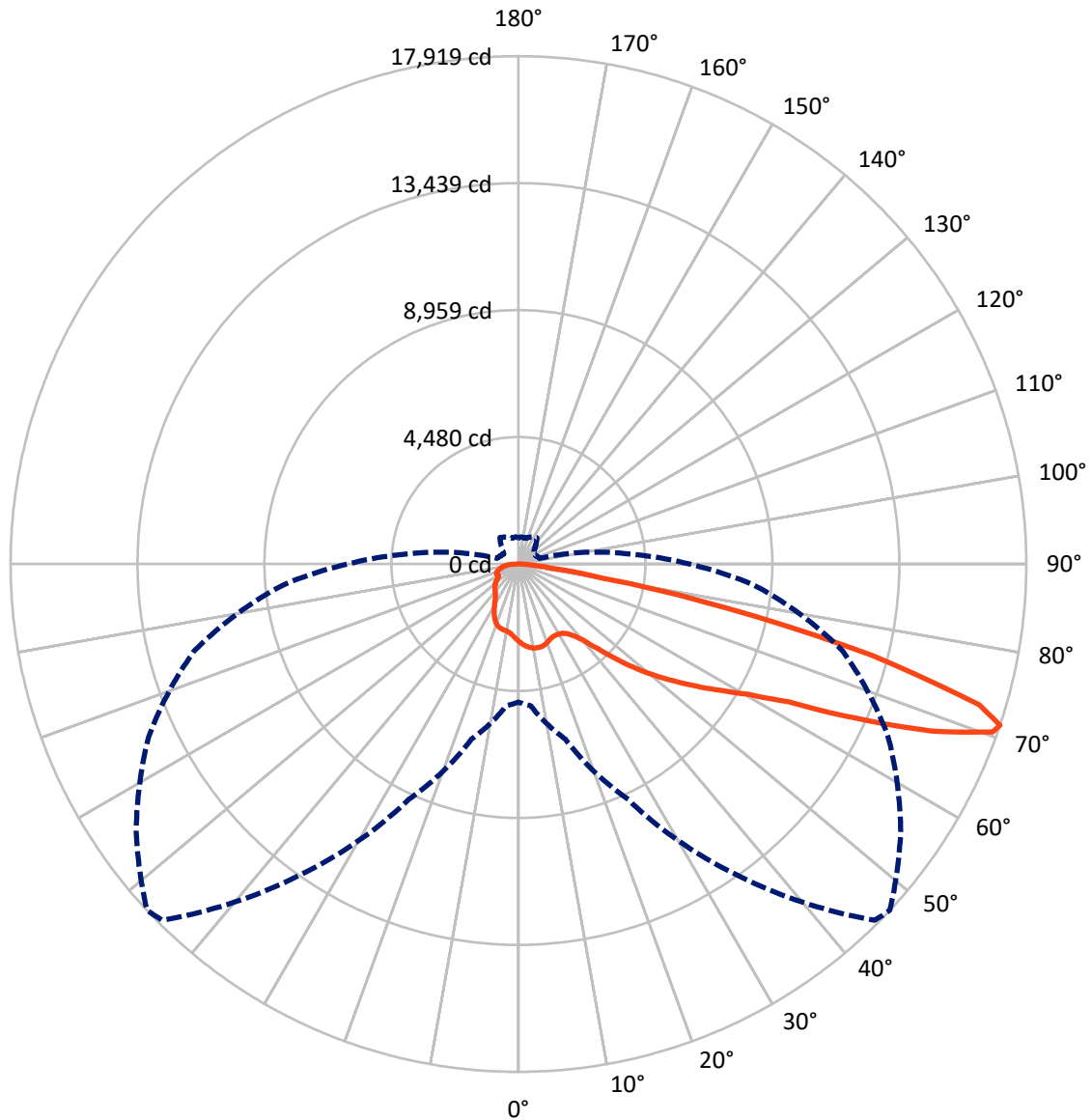
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4924.6	0.0	4924.6
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	18053.9	0.0	18053.9
	% Fixture	78.6	0.0	78.6
Total	Lumens	22978.5	0.0	22978.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	260.9	1.1
10°-20°	763.3	3.3
20°-30°	1134.2	4.9
30°-40°	1628.6	7.1
40°-50°	2887.5	12.6
50°-60°	4940.9	21.5
60°-70°	7014.4	30.5
70°-80°	3841.7	16.7
80°-90°	507.1	2.2
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°	22978.5	100.0
0°-180°	22978.5	100.0



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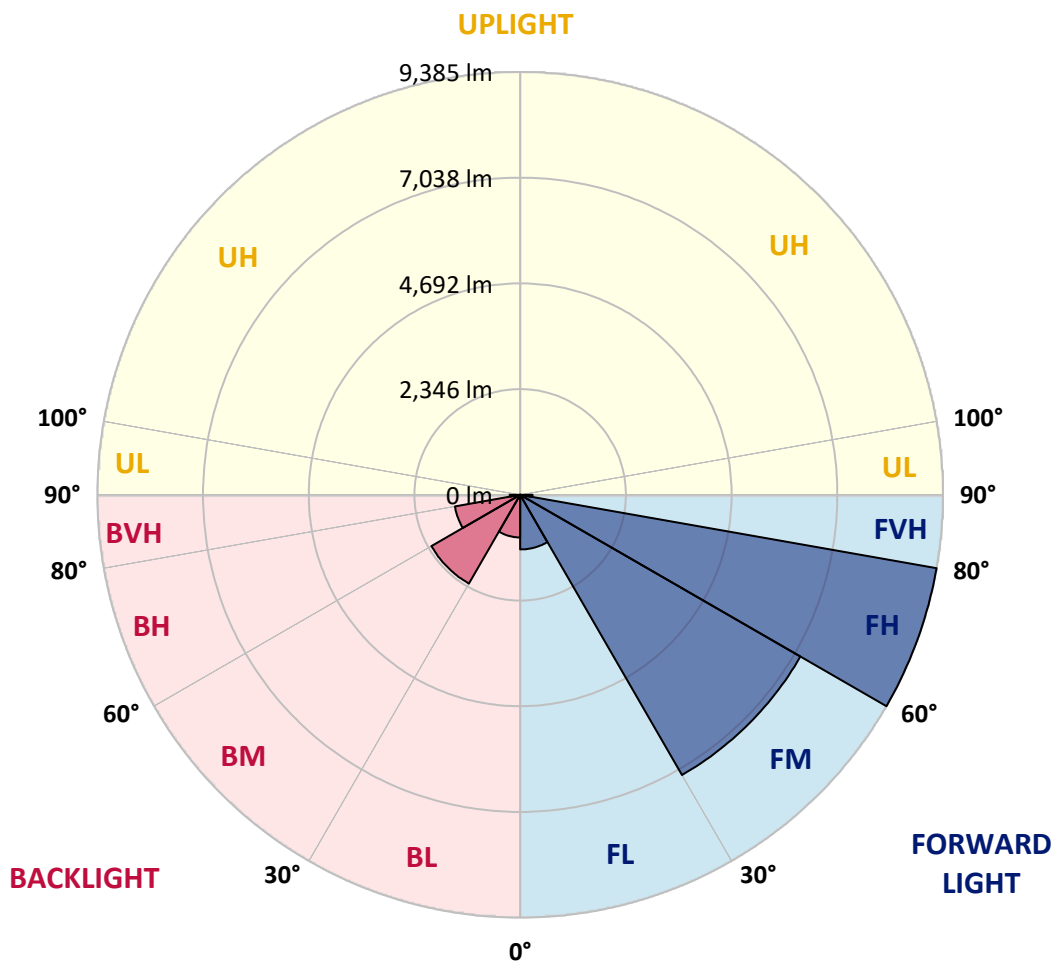
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1212.7	5.3			
FM	(30°-60°)	7181.5	31.3			
FH	(60°-80°)	9384.6	40.8			G4/12000
FVH	(80°-90°)	275.1	1.2			G3/500
BL	(0°-30°)	945.7	4.1	B2/1000		
BM	(30°-60°)	2275.5	9.9	B2/2500		
BH	(60°-80°)	1471.4	6.4	B3/2500		G3/2500
BVH	(80°-90°)	232.1	1.0			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6
2.5°	2899.3	2893.4	2896.3	2886.0	2860.7	2833.8	2833.8	2805.4	2775.8	2745.8	2713.2
5°	3079.5	3070.5	3063.1	3030.3	2981.2	2926.0	2917.2	2860.7	2799.6	2738.5	2678.9
7.5°	3229.9	3221.0	3198.7	3139.0	3067.6	2985.6	2975.2	2900.7	2820.4	2735.5	2652.1
10°	3337.2	3331.2	3287.9	3212.0	3128.6	3031.8	3014.0	2938.0	2842.7	2737.0	2631.2
12.5°	3396.8	3387.8	3335.5	3246.2	3148.0	3049.7	3031.8	2958.8	2850.1	2734.0	2610.5
15°	3372.9	3368.4	3319.2	3228.4	3130.1	3045.3	3030.3	2956.0	2845.7	2723.7	2591.0
17.5°	3271.5	3282.0	3243.3	3153.9	3073.6	3014.0	2997.6	2927.5	2823.4	2698.2	2561.2
20°	3131.6	3143.4	3124.1	3033.3	2987.1	2948.4	2939.6	2882.9	2786.2	2661.0	2525.6
22.5°	2982.7	2993.2	2994.6	2909.7	2894.9	2880.0	2872.5	2832.3	2753.3	2638.7	2501.7
25°	2880.0	2891.9	2894.9	2820.4	2829.3	2833.8	2832.3	2804.0	2747.5	2638.7	2504.7
27.5°	2853.1	2859.0	2856.2	2787.6	2804.0	2829.3	2830.7	2824.8	2771.2	2668.4	2546.3
30°	2945.5	2948.4	2911.1	2808.6	2824.8	2857.6	2859.0	2856.2	2821.8	2745.8	2640.2
32.5°	3344.6	3341.5	3213.4	2948.4	2891.9	2903.9	2908.3	2935.0	2938.0	2873.9	2775.8
35°	3952.2	3950.7	3801.6	3349.1	3082.4	3019.9	3025.9	3067.6	3104.8	3061.7	3005.0
37.5°	4620.7	4625.3	4534.4	3920.8	3493.5	3232.9	3226.9	3258.2	3325.2	3340.1	3347.5
40°	5362.3	5384.6	5380.2	4577.6	4069.7	3596.3	3536.6	3501.0	3630.5	3712.3	3818.1
42.5°	6209.7	6203.6	6206.6	5298.3	4727.9	4168.0	4057.9	3891.1	4041.5	4182.9	4415.2
45°	6937.8	6961.7	6979.6	6065.1	5465.1	4821.7	4710.1	4406.2	4541.8	4753.2	5107.7
47.5°	7670.4	7628.8	7661.5	6918.4	6285.5	5567.8	5423.3	5013.8	5140.5	5438.2	5977.3
50°	8523.7	8504.3	8355.5	8032.3	7277.3	6324.2	6135.2	5648.3	5832.9	6230.5	7050.9
52.5°	9289.2	9184.8	9068.7	8907.9	8252.6	7089.7	6849.9	6307.9	6647.4	7140.3	8383.7
55°	9569.0	9499.0	9639.1	9847.5	9284.6	7870.1	7601.9	7077.7	7566.2	8181.1	9951.8
57.5°	9866.9	9890.7	10206.5	10627.8	10261.5	8702.4	8412.0	7989.0	8574.3	9345.6	11704.5
60°	10015.7	10111.1	10740.9	11531.7	11190.6	9615.2	9336.8	9036.0	9692.6	10632.2	13452.7
62.5°	10041.1	10169.2	11061.1	11848.9	12469.8	11013.5	10691.8	10365.7	11089.4	12054.4	14718.4
65°	9576.6	9773.0	11032.9	12239.0	13635.8	13349.9	13145.8	12577.0	12959.8	13306.8	14934.3
67.5°	8211.0	8425.5	9941.4	12078.3	14571.0	15774.1	15735.5	14895.5	14404.2	13790.7	13333.5
70°	6026.4	6199.2	7655.5	10325.5	14162.9	17677.2	17745.7	16398.1	14807.8	12763.2	9914.6
71°	4873.8	5022.8	6395.8	9166.9	13367.8	17775.5	17918.5	16465.2	14387.9	11835.4	8300.2
72.5°	3033.3	3116.7	4246.9	6918.4	11510.8	16762.9	17004.1	15607.4	13065.5	10003.9	5867.1
75°	1145.1	1177.9	1575.4	3051.3	6870.7	12593.3	12885.3	11795.3	9178.9	5710.7	2455.5
77.5°	615.0	631.4	781.7	1268.8	2753.3	7219.1	7594.5	6727.9	4403.3	1998.4	1003.6
80°	412.5	422.9	540.5	752.1	1265.7	2749.0	3061.7	2701.3	1648.5	1140.7	714.8
82.5°	266.5	272.5	367.9	494.3	817.5	966.4	1103.5	1152.5	1029.0	817.5	431.8
85°	175.7	180.2	242.7	315.7	506.4	476.6	488.4	638.9	701.3	539.1	220.4
87.5°	101.2	104.3	146.0	162.4	227.8	178.8	193.6	303.7	417.0	351.4	126.7
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°	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6	2732.6
2.5°	2698.2	2686.3	2659.5	2643.2	2635.7	2632.8	2629.8	2635.7	2635.7	2632.8	2626.9
5°	2649.1	2626.9	2582.1	2550.8	2534.5	2529.9	2535.9	2543.5	2547.9	2547.9	2543.5
7.5°	2613.3	2580.7	2521.1	2477.9	2452.6	2445.1	2461.4	2488.3	2506.2	2515.2	2516.6
10°	2583.6	2538.9	2473.5	2428.7	2407.8	2404.9	2425.8	2460.0	2497.3	2513.5	2516.6
12.5°	2556.8	2506.2	2434.6	2393.1	2378.2	2385.5	2413.8	2445.1	2488.3	2512.1	2513.5
15°	2531.6	2479.4	2403.4	2360.2	2357.2	2369.2	2396.0	2421.3	2454.1	2483.9	2483.9
17.5°	2501.7	2445.1	2366.1	2326.0	2326.0	2336.4	2354.3	2367.8	2388.6	2416.8	2415.4
20°	2465.9	2407.8	2327.5	2285.7	2276.8	2270.8	2270.8	2273.9	2291.8	2317.1	2321.5
22.5°	2439.2	2379.6	2294.7	2244.1	2203.9	2165.2	2148.7	2142.8	2159.3	2183.1	2189.0
25°	2439.2	2379.6	2284.3	2199.4	2101.1	2026.7	1995.4	1986.5	2002.9	2025.1	2034.1
27.5°	2479.4	2419.9	2308.1	2159.3	1979.1	1859.9	1822.8	1815.2	1830.1	1848.1	1856.9
30°	2573.1	2515.2	2376.6	2113.1	1843.5	1687.1	1645.4	1638.0	1645.4	1652.9	1663.3
32.5°	2729.5	2680.5	2488.3	2071.3	1706.5	1530.8	1480.1	1468.3	1471.2	1472.7	1481.7
35°	2984.2	2961.8	2637.2	2022.3	1577.0	1402.8	1350.6	1326.7	1325.3	1332.7	1343.1
37.5°	3374.4	3387.8	2829.3	1950.7	1469.7	1312.0	1259.9	1236.0	1224.0	1238.9	1250.9
40°	3925.4	3956.6	3051.3	1853.9	1382.0	1258.3	1203.2	1180.8	1164.6	1160.0	1166.0
42.5°	4641.5	4632.6	3277.6	1730.3	1286.6	1222.6	1164.6	1140.7	1113.9	1079.7	1072.1
45°	5490.4	5362.3	3466.6	1578.4	1177.9	1188.3	1128.7	1096.0	1054.3	1003.6	997.7
47.5°	6492.5	6139.6	3582.8	1416.2	1076.6	1143.6	1088.6	1037.9	976.8	944.1	939.6
50°	7700.2	7049.4	3664.7	1250.9	985.8	1087.0	1032.0	965.0	905.4	896.5	894.9
52.5°	9129.7	8123.2	3766.0	1102.0	914.4	1014.0	975.4	906.8	859.1	863.7	863.7
55°	10650.1	9233.9	3769.0	984.4	851.8	929.1	933.7	878.6	841.4	856.3	860.7
57.5°	12036.5	10204.8	3472.6	900.9	792.2	862.3	920.3	889.1	860.7	912.8	917.3
60°	13245.7	10952.5	2835.3	832.4	743.1	837.0	950.0	953.0	947.1	1088.6	1098.9
62.5°	13688.0	10960.0	2013.3	774.2	716.3	851.8	1012.6	1017.2	1017.2	1148.2	1167.4
65°	13068.5	10047.1	1340.2	740.2	698.4	884.6	1063.2	1043.9	997.7	1088.6	1067.6
67.5°	10885.4	7820.9	979.8	717.7	673.1	886.0	1107.9	1058.7	979.8	1057.2	1021.6
70°	7481.4	4976.6	820.5	696.9	643.2	847.3	1131.8	1054.3	953.0	985.8	938.1
71°	6022.0	3971.4	778.8	689.4	631.4	825.0	1134.6	1048.3	939.6	960.5	917.3
72.5°	3966.9	2446.7	728.2	673.1	613.5	786.2	1127.3	1034.9	921.8	923.3	894.9
75°	1565.0	1014.0	655.3	635.8	562.9	723.8	1094.5	1006.6	887.5	857.7	845.8
77.5°	790.7	662.7	576.4	583.7	503.3	659.6	1048.3	960.5	839.8	799.6	790.7
80°	577.8	503.3	492.9	506.4	436.2	597.2	990.2	897.9	778.8	820.5	802.6
82.5°	351.4	306.7	385.7	418.4	364.8	533.1	921.8	825.0	701.3	646.3	625.4
85°	166.7	180.2	278.5	308.3	269.5	425.8	842.8	744.5	612.0	528.7	537.5
87.5°	81.8	99.8	159.3	184.6	177.1	312.7	635.8	577.8	482.5	397.6	388.6
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)