

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: P197278

Luminaire Tested: **NAV-AF-04-D-UNV-T3-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197278
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-T3-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21845 lumens
Efficiency: N/A
Efficacy: 84.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

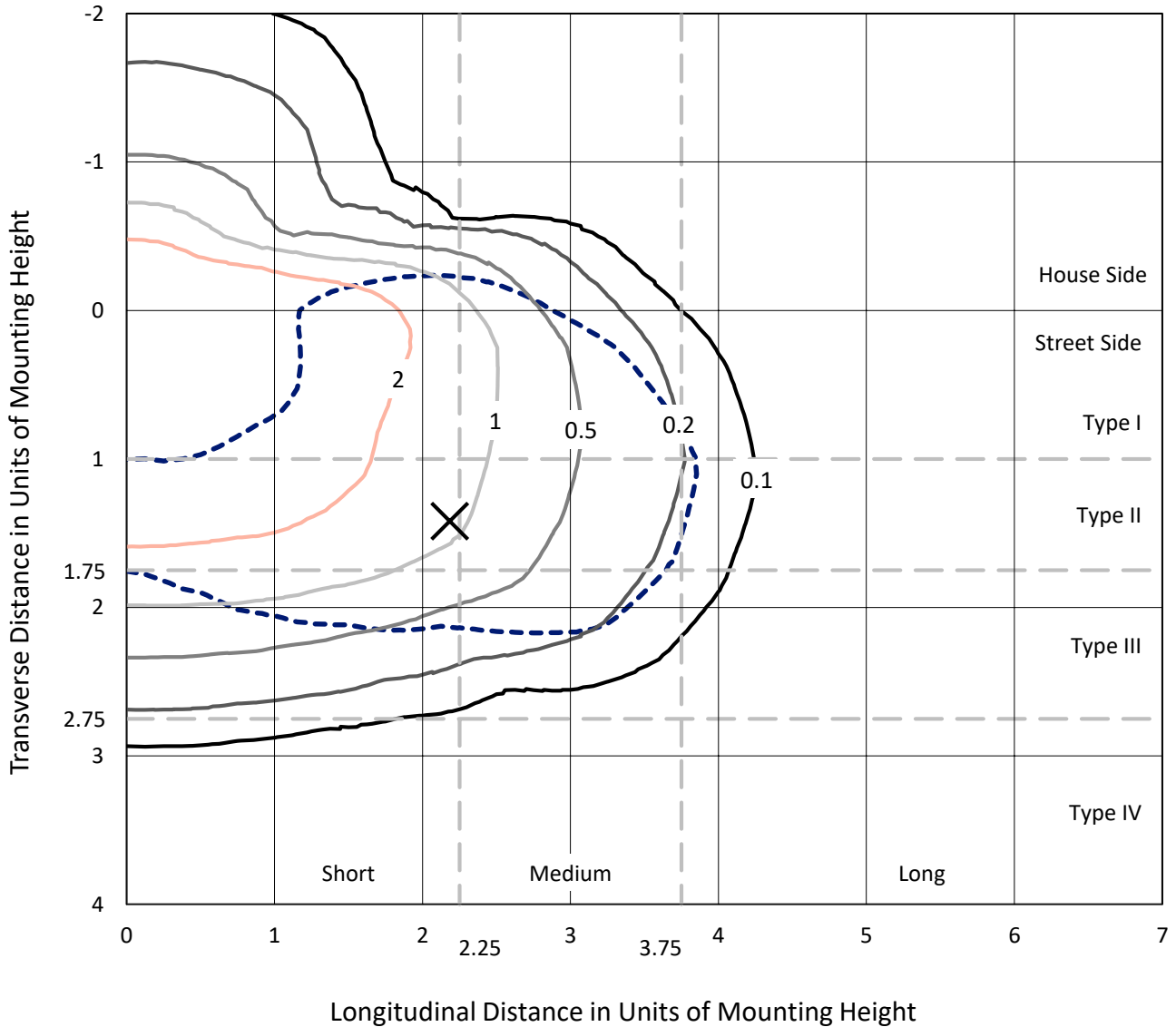
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

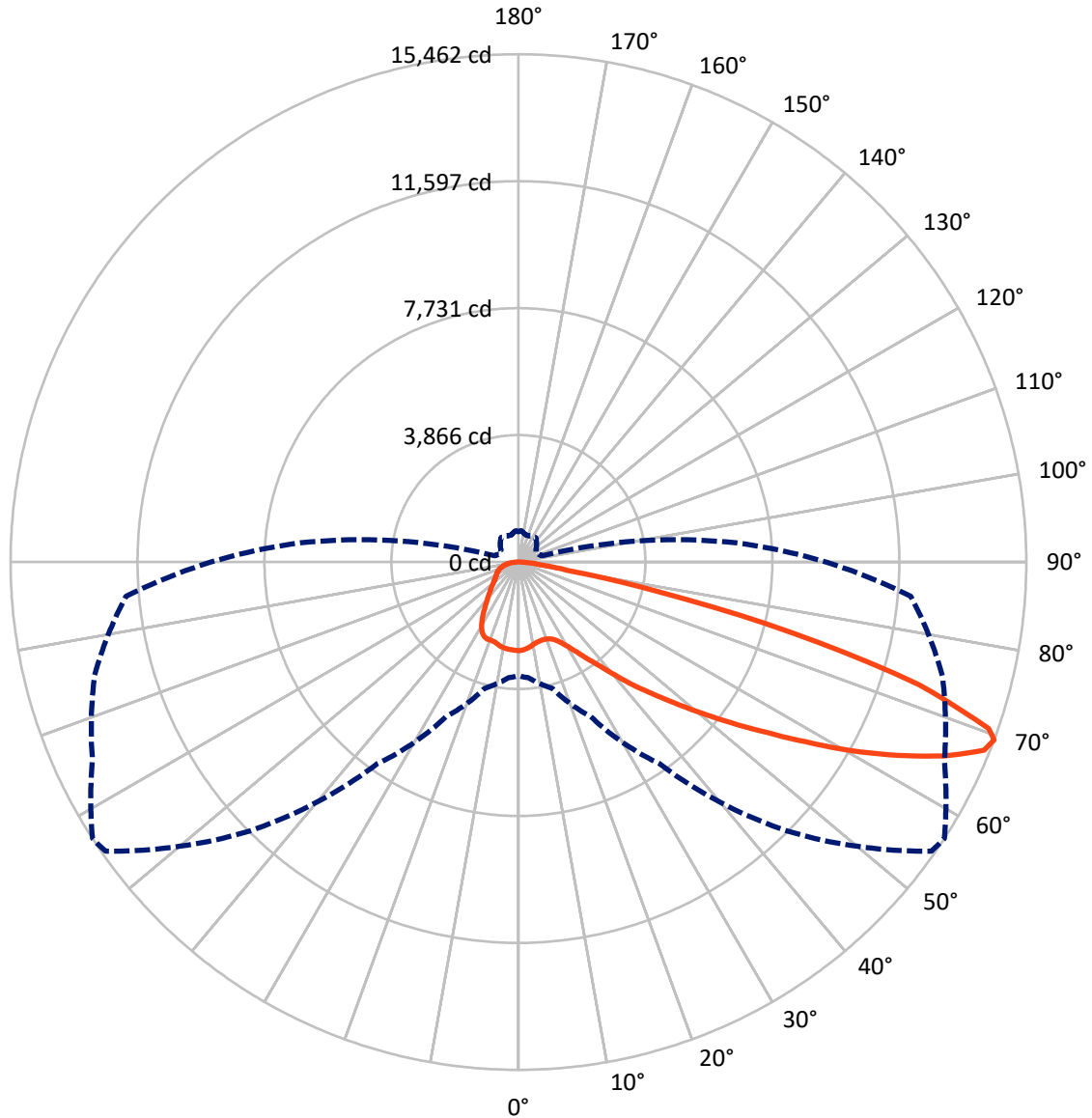
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.4 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	4820.4	0.0	4820.4
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	17024.6	0.0	17024.6
	% Fixture	77.9	0.0	77.9
Total	Lumens	21845.0	0.0	21845.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.7	1.2
10°-20°	718.5	3.3
20°-30°	1195.2	5.5
30°-40°	1951.7	8.9
40°-50°	3294.0	15.1
50°-60°	5124.0	23.5
60°-70°	6103.8	27.9
70°-80°	2843.5	13.0
80°-90°	361.7	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°	21845.0	100.0
0°-180°	21845.0	100.0



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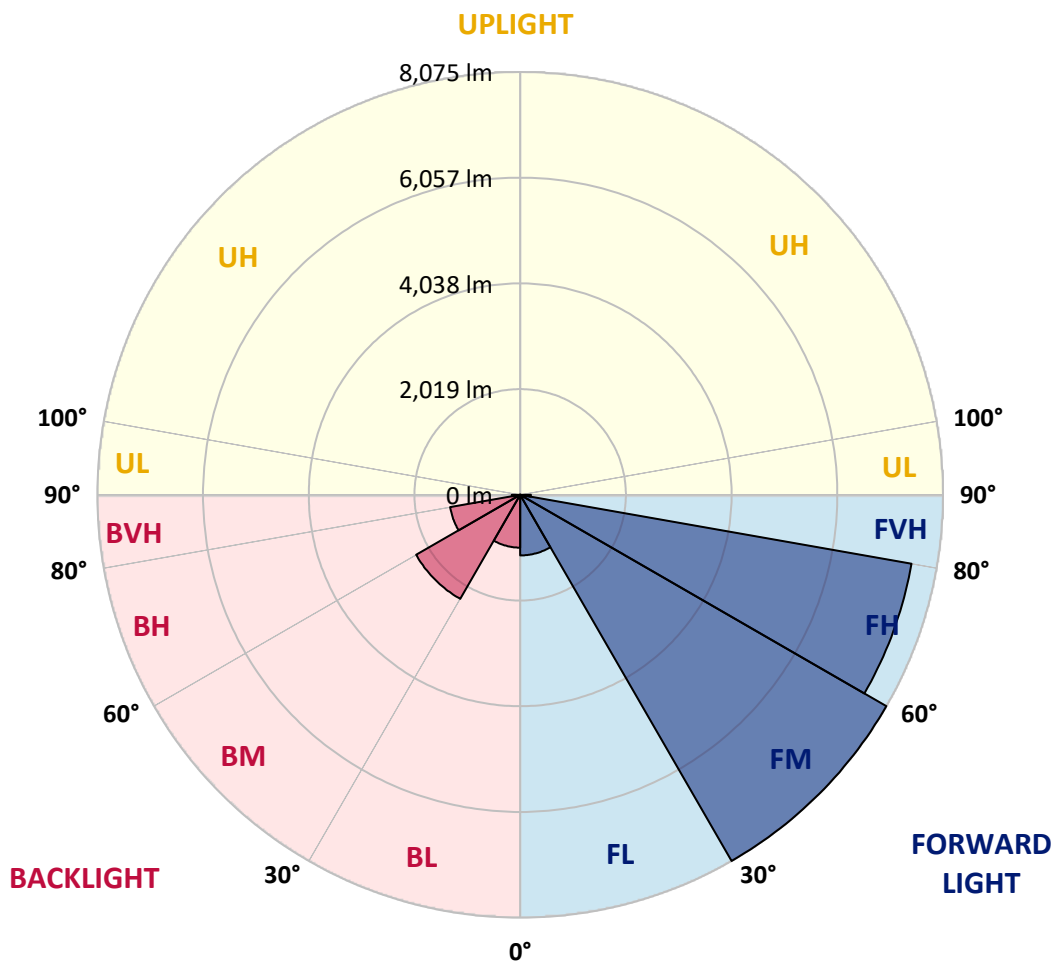
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1156.9	5.3			
FM	(30°-60°)	8075.4	37.0			
FH	(60°-80°)	7589.0	34.7			G4/12000
FVH	(80°-90°)	203.3	0.9			G2/225
BL	(0°-30°)	1009.5	4.6	B3/2500		
BM	(30°-60°)	2294.2	10.5	B2/2500		
BH	(60°-80°)	1358.3	6.2	B3/2500		G3/2500
BVH	(80°-90°)	158.4	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2
2.5°	2683.8	2683.8	2690.8	2690.8	2690.8	2688.0	2679.6	2682.4	2676.8	2672.6	2665.6
5°	2629.2	2632.0	2640.4	2643.2	2647.4	2648.8	2648.8	2647.4	2648.8	2648.8	2644.6
7.5°	2553.7	2556.5	2566.3	2571.9	2584.5	2595.7	2601.3	2601.3	2608.3	2613.9	2615.3
10°	2507.6	2507.6	2513.2	2513.2	2522.9	2528.5	2546.7	2545.3	2564.9	2583.1	2591.5
12.5°	2502.0	2502.0	2499.2	2489.4	2483.8	2482.4	2500.6	2503.4	2532.7	2564.9	2580.3
15°	2520.2	2520.2	2511.8	2492.2	2471.2	2461.4	2479.6	2485.2	2517.4	2555.1	2578.9
17.5°	2578.9	2577.5	2559.3	2520.2	2483.8	2468.4	2474.0	2479.6	2509.0	2552.3	2581.7
20°	2709.0	2709.0	2669.8	2598.5	2535.5	2499.2	2490.8	2495.0	2516.0	2556.5	2594.3
22.5°	2936.9	2941.1	2871.2	2753.7	2646.0	2569.1	2535.5	2539.7	2549.5	2588.7	2630.6
25°	3272.6	3261.4	3162.1	2995.7	2827.8	2696.4	2627.8	2632.0	2632.0	2668.4	2711.7
27.5°	3627.8	3630.6	3487.9	3308.9	3088.0	2892.2	2783.1	2781.7	2780.3	2815.2	2861.4
30°	4029.2	4030.6	3865.5	3658.6	3405.4	3155.1	2991.5	2990.1	2977.5	3020.8	3081.0
32.5°	4468.3	4466.9	4275.3	4041.8	3760.6	3476.7	3264.2	3262.8	3253.0	3311.7	3384.4
35°	4955.0	4955.0	4764.8	4476.7	4173.2	3857.1	3611.0	3609.6	3615.2	3694.9	3763.4
37.5°	5541.0	5553.6	5324.2	4974.6	4643.1	4306.1	4019.4	4011.0	3969.0	4103.3	4216.6
40°	6152.1	6187.1	5949.3	5541.0	5183.0	4834.7	4518.7	4513.1	4476.7	4619.3	4802.6
42.5°	6813.6	6893.4	6629.0	6212.3	5822.1	5445.9	5128.4	5113.0	4973.2	5195.5	5482.2
45°	7680.7	7732.5	7349.3	6971.7	6603.9	6174.5	5796.9	5714.4	5574.5	5859.8	6231.8
47.5°	8270.9	8245.7	8006.6	7753.4	7517.1	7105.9	6525.5	6420.7	6250.0	6627.6	7037.4
50°	8637.3	8655.5	8521.2	8508.7	8496.1	8209.4	7347.9	7222.0	7024.8	7472.3	7950.6
52.5°	8879.3	8796.8	8820.5	9105.8	9451.3	9314.2	8277.9	8138.0	7935.3	8382.8	8922.6
55°	8778.6	8669.5	8889.1	9451.3	10263.8	10294.6	9298.8	9154.8	8981.4	9350.6	10091.8
57.5°	8361.8	8416.4	8763.2	9545.0	10819.0	11172.9	10472.2	10325.3	9984.1	10358.9	11202.2
60°	7775.8	7886.3	8416.4	9396.7	11207.8	11856.7	11760.2	11662.3	11075.0	11340.7	12368.6
62.5°	7146.5	7255.6	7907.3	9143.6	11033.0	12462.3	13024.5	12964.4	12279.1	12286.1	13108.4
65°	6216.5	6261.2	6926.9	8452.7	10547.7	13009.1	14290.2	14237.0	13430.1	13093.0	13315.4
67.5°	4694.9	4750.8	5297.6	6672.4	9070.9	12712.6	15301.3	15292.9	14122.4	13392.3	12823.1
69°	3467.0	3535.5	3981.6	5180.2	7500.3	11582.6	15348.9	15462.1	14309.8	13361.6	11991.0
70°	2536.9	2615.3	3027.8	4111.7	6247.2	10335.1	14941.9	15185.2	14238.4	13167.2	11342.1
72.5°	1078.3	1104.8	1307.6	1855.8	3169.1	6231.8	12238.5	12750.4	12859.5	11798.0	8861.1
75°	675.5	683.9	763.6	952.4	1409.7	2577.5	7925.5	8623.3	9600.9	9153.4	5932.6
77.5°	509.1	516.1	562.2	655.9	875.5	962.2	3676.7	4384.4	5499.0	5384.3	2952.3
80°	390.2	394.4	425.2	476.9	616.8	602.8	1192.9	1499.2	2295.0	2025.1	1044.7
82.5°	306.3	307.7	334.2	344.0	430.7	405.6	598.6	667.1	927.2	770.6	510.5
85°	271.3	275.5	302.1	251.7	275.5	244.7	328.7	356.6	492.3	464.3	193.0
87.5°	138.5	145.4	253.1	215.4	138.5	116.1	144.0	155.2	200.0	216.8	93.7
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°	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2	2699.2
2.5°	2667.0	2668.4	2672.6	2679.6	2690.8	2704.8	2721.5	2738.3	2748.1	2755.1	2752.3
5°	2644.6	2646.0	2654.4	2667.0	2681.0	2702.0	2729.9	2750.9	2766.3	2776.1	2774.7
7.5°	2616.6	2620.8	2637.6	2651.6	2671.2	2688.0	2710.4	2729.9	2745.3	2755.1	2753.7
10°	2595.7	2599.9	2620.8	2639.0	2655.8	2658.6	2654.4	2648.8	2647.4	2654.4	2651.6
12.5°	2585.9	2594.3	2613.9	2626.4	2619.4	2592.9	2562.1	2549.5	2545.3	2559.3	2560.7
15°	2588.7	2595.7	2612.5	2604.1	2566.3	2521.5	2504.8	2514.6	2522.9	2531.3	2532.7
17.5°	2595.7	2599.9	2604.1	2573.3	2520.2	2490.8	2485.2	2475.4	2450.2	2436.2	2434.8
20°	2608.3	2613.9	2606.9	2557.9	2510.4	2471.2	2404.1	2343.9	2286.6	2255.8	2243.2
22.5°	2651.6	2655.8	2634.8	2587.3	2514.6	2387.3	2251.6	2148.1	2060.0	2012.5	1994.3
25°	2736.9	2743.9	2714.5	2654.4	2464.2	2241.8	2050.2	1910.4	1799.9	1742.6	1727.2
27.5°	2886.6	2893.6	2861.4	2704.8	2346.7	2047.4	1815.3	1676.8	1581.7	1532.8	1525.8
30°	3110.3	3120.1	3090.8	2703.4	2167.7	1799.9	1585.9	1504.8	1450.3	1416.7	1415.3
32.5°	3420.8	3457.2	3336.9	2655.8	1946.8	1549.6	1412.5	1384.5	1358.0	1335.6	1335.6
35°	3815.2	3900.5	3580.2	2556.5	1703.4	1379.0	1316.0	1289.4	1255.9	1232.1	1229.3
37.5°	4286.5	4419.4	3753.7	2380.3	1493.6	1296.4	1257.3	1213.9	1160.8	1114.6	1103.4
40°	4934.0	4964.8	3839.0	2093.6	1337.0	1251.7	1202.7	1148.2	1081.1	1029.3	1023.7
42.5°	5584.3	5483.6	3822.2	1785.9	1247.5	1211.1	1146.8	1086.7	1026.5	983.2	983.2
45°	6324.2	5936.8	3694.9	1476.8	1166.4	1165.0	1095.0	1037.7	991.6	959.4	952.4
47.5°	7031.8	6343.7	3475.3	1248.9	1082.5	1118.8	1061.5	1015.3	973.4	942.6	937.0
50°	7890.5	6815.0	3241.8	1089.5	1001.3	1078.3	1047.5	1023.7	983.2	930.0	924.4
52.5°	8743.6	7366.1	3061.4	969.2	930.0	1046.1	1055.9	1058.7	1020.9	917.4	910.4
55°	9659.6	7954.8	2871.2	875.5	871.3	1030.7	1075.5	1072.7	1054.5	920.2	909.0
57.5°	10530.9	8546.4	2587.3	809.7	825.1	1015.3	1079.7	1034.9	1002.7	934.2	916.0
60°	11252.6	9035.9	2170.5	763.6	786.0	984.6	1051.7	984.6	930.0	931.4	914.6
62.5°	11603.6	9173.0	1660.1	710.5	753.8	934.2	1011.1	946.8	896.5	937.0	927.2
65°	11336.5	8782.8	1183.2	661.5	714.6	875.5	987.4	914.6	879.7	965.0	953.8
67.5°	10377.1	7719.9	858.7	618.2	676.9	815.3	942.6	885.3	862.9	986.0	960.8
69°	9357.6	6665.4	744.0	593.0	650.3	783.2	913.2	869.9	850.3	956.6	920.2
70°	8510.1	5852.8	686.7	577.6	627.9	765.0	890.9	860.1	837.7	921.6	878.3
72.5°	6101.8	3783.0	577.6	531.4	569.2	724.4	841.9	823.7	790.2	832.1	804.2
75°	3686.5	1974.7	490.9	483.9	507.7	668.5	784.6	762.2	728.6	732.8	718.8
77.5°	1693.6	911.8	411.2	428.0	443.3	598.6	714.6	689.5	658.7	647.5	648.9
80°	742.6	532.8	344.0	365.0	373.4	538.4	639.1	611.2	577.6	637.7	591.6
82.5°	401.4	309.1	268.5	282.5	306.3	468.5	555.2	518.9	486.7	566.4	457.3
85°	162.2	158.0	181.8	195.8	212.6	337.0	464.3	426.6	387.4	346.8	338.4
87.5°	69.9	75.5	89.5	95.1	113.3	209.8	311.9	272.7	274.1	235.0	230.8
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)