

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: P196840

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196840
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-04-D-UNV-T4FT-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 1050mA 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: 23782.5 lumens
Efficiency: N/A
Efficacy: 105.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

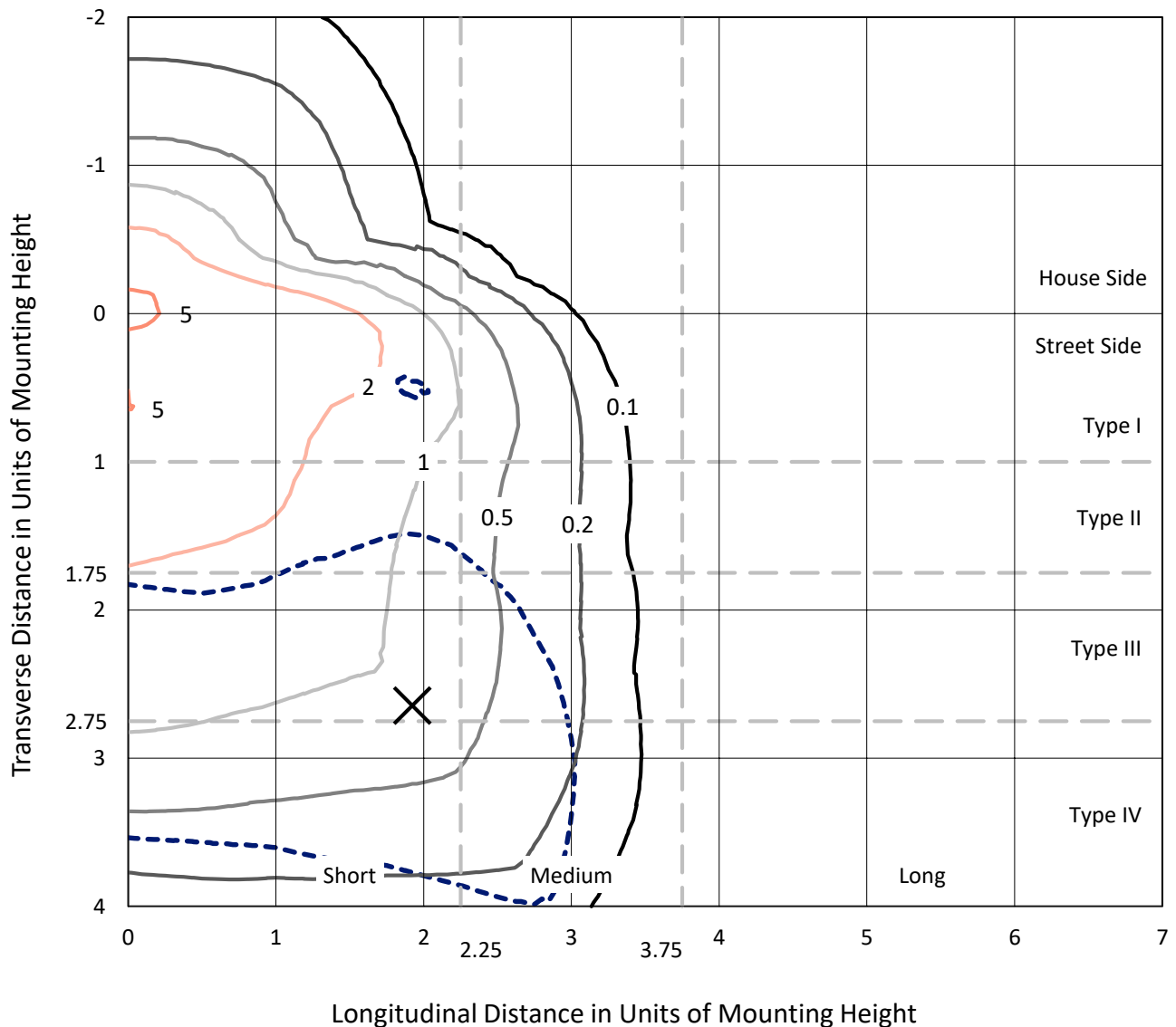
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

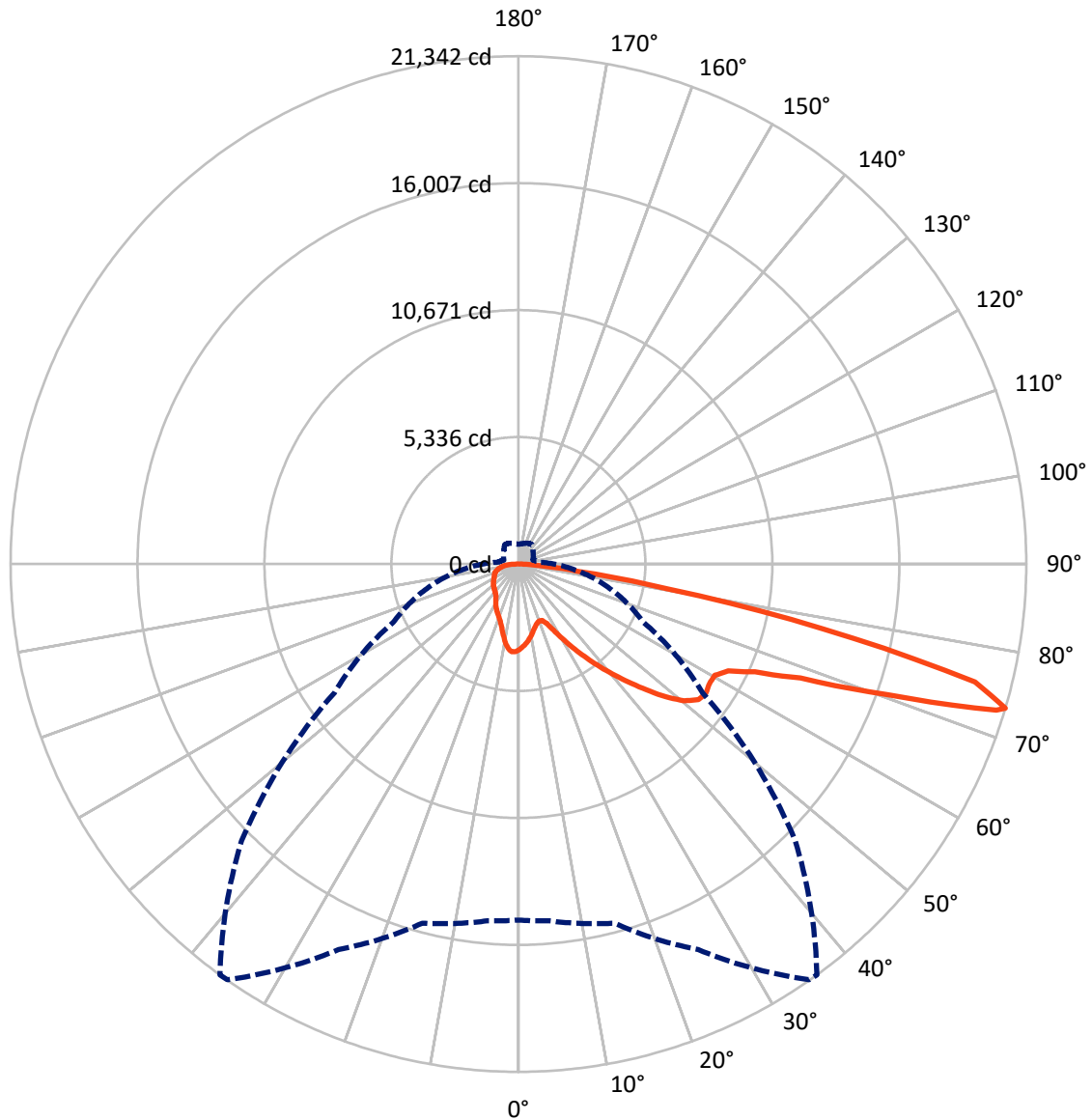
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.8 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	4586.0	0.0	4586.0
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	19196.5	0.0	19196.5
	% Fixture	80.7	0.0	80.7
Total	Lumens	23782.5	0.0	23782.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	327.2	1.4
10°-20°	821.8	3.5
20°-30°	1317.5	5.5
30°-40°	2179.3	9.2
40°-50°	3372.2	14.2
50°-60°	4514.3	19.0
60°-70°	5897.1	24.8
70°-80°	4816.9	20.3
80°-90°	536.2	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°	23782.5	100.0
0°-180°	23782.5	100.0



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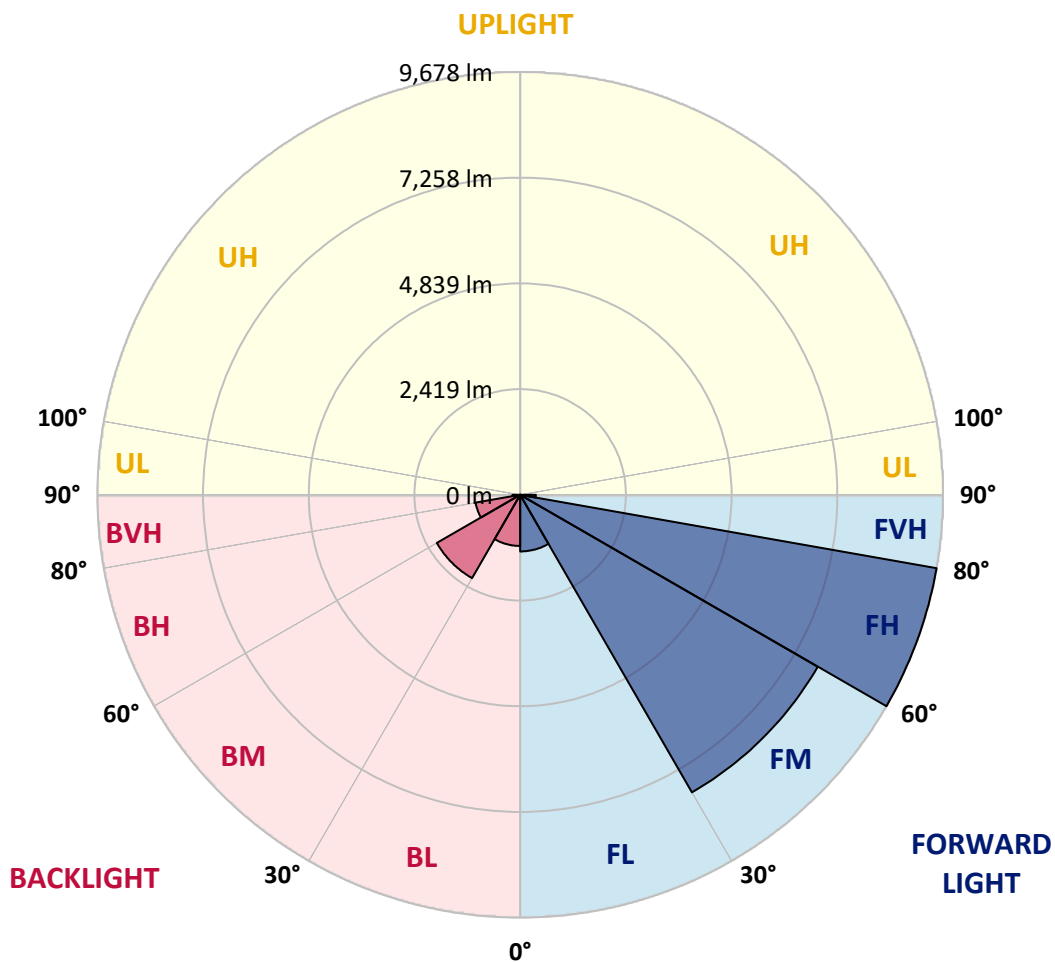
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1295.9	5.4			
FM	(30°-60°)	7863.3	33.1			
FH	(60°-80°)	9677.7	40.7			G4/12000
FVH	(80°-90°)	359.6	1.5			G3/500
BL	(0°-30°)	1170.6	4.9	B3/2500		
BM	(30°-60°)	2202.4	9.3	B2/2500		
BH	(60°-80°)	1036.3	4.4	B3/2500		G3/2500
BVH	(80°-90°)	176.6	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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4
2.5°	3464.8	3473.9	3475.4	3486.0	3486.0	3484.5	3488.9	3507.1	3516.2	3537.4	3555.6
5°	3294.0	3304.6	3309.3	3327.4	3350.0	3351.5	3368.1	3402.9	3436.1	3482.9	3522.3
7.5°	3102.2	3114.3	3126.4	3164.1	3197.4	3200.4	3232.1	3288.0	3331.9	3389.3	3460.3
10°	2916.3	2919.4	2931.4	2979.8	3023.6	3028.1	3073.5	3137.0	3195.9	3275.9	3356.0
12.5°	2763.7	2772.8	2769.7	2806.0	2843.8	2846.9	2907.3	2987.3	3073.5	3164.1	3259.3
15°	2710.8	2709.3	2677.6	2676.1	2692.7	2695.8	2754.7	2848.4	2945.1	3056.8	3179.2
17.5°	2747.1	2735.0	2651.9	2600.5	2590.0	2592.9	2636.8	2739.5	2842.3	2970.8	3117.2
20°	2946.5	2899.7	2704.8	2580.9	2546.2	2546.2	2571.9	2654.9	2768.3	2917.9	3102.2
22.5°	3419.5	3346.9	2931.4	2710.8	2588.5	2576.4	2556.6	2620.1	2745.5	2925.4	3164.1
25°	4014.8	3980.1	3346.9	3056.8	2804.4	2765.3	2635.3	2658.0	2792.4	3007.1	3333.4
27.5°	4566.4	4506.0	3892.5	3560.0	3203.5	3143.0	2867.9	2775.8	2904.2	3158.1	3578.1
30°	4888.3	4847.5	4453.1	4135.8	3711.1	3634.1	3239.6	3008.5	3103.7	3407.5	3925.6
32.5°	5238.9	5214.6	5015.2	4726.5	4261.2	4172.1	3720.2	3387.8	3408.9	3738.3	4344.2
35°	5578.8	5610.6	5497.2	5285.6	4853.6	4770.4	4365.5	3883.4	3785.2	4110.2	4791.6
37.5°	5986.8	5994.4	5923.4	5785.9	5476.1	5408.2	5074.1	4412.3	4194.7	4506.0	5223.6
40°	6801.3	6681.9	6403.8	6295.1	6110.7	6068.4	5687.6	4897.3	4575.4	4912.4	5631.7
42.5°	7682.2	7496.4	7061.2	6882.9	6808.8	6769.4	6198.4	5220.7	4932.1	5319.0	6032.1
45°	8392.4	8241.3	7815.2	7594.5	7603.6	7540.2	6644.0	5509.3	5319.0	5727.0	6479.4
47.5°	9092.0	8839.6	8362.1	8330.5	8436.2	8342.5	7070.1	5798.0	5722.4	6171.2	6926.7
50°	9137.4	8907.7	8714.3	8968.1	9149.5	9033.1	7457.1	6175.7	6140.9	6709.1	7503.9
52.5°	8585.8	8552.6	8847.3	9274.8	9575.6	9471.2	7772.8	6564.0	6568.5	7381.4	8206.6
55°	8384.9	8342.5	8696.2	9221.9	9628.5	9566.5	8008.6	7002.2	7043.1	8197.5	8960.6
57.5°	8723.3	8617.5	8687.1	9122.3	9504.6	9468.3	8253.3	7488.7	7562.8	9137.4	9657.1
60°	9773.5	9557.5	9188.7	9270.3	9509.1	9487.8	8603.9	8031.2	8155.1	10116.6	10098.4
62.5°	11346.5	11101.8	10350.6	9988.1	9935.2	9894.4	9182.7	8697.6	8759.6	10823.7	9841.5
65°	13072.1	12809.2	11916.2	11322.3	11011.0	10923.4	10116.6	9501.5	9113.2	10822.1	8841.1
67.5°	15009.3	14731.2	13841.3	13274.6	12937.6	12788.0	11632.1	10151.3	8998.4	9906.4	7074.7
70°	16993.3	16728.9	16320.9	16518.8	16667.0	16438.7	14019.6	10367.3	8173.2	7766.8	4750.7
72.5°	15940.1	15919.0	16228.8	18105.5	20959.9	21005.2	16403.9	9756.9	6314.6	4616.3	2532.5
73°	14962.4	15051.5	15625.8	17871.2	21327.0	21342.1	16450.8	9441.1	5798.0	3977.1	2224.3
75°	7751.7	8356.1	10486.7	14491.0	19747.9	19819.0	14501.6	7147.3	3455.8	2209.1	1498.9
77.5°	2076.2	2048.9	3378.8	7059.7	13165.8	13072.1	9163.0	3460.3	1656.2	1385.6	1051.7
80°	711.8	720.8	1150.0	2582.4	6145.5	6364.6	3977.1	1509.5	1089.5	965.6	744.9
82.5°	362.6	374.8	601.4	1098.5	2570.4	2515.9	1279.9	888.5	729.9	586.2	417.1
85°	193.4	199.5	330.9	569.7	942.9	953.5	450.2	474.5	464.0	332.4	205.5
87.5°	95.2	98.3	158.7	250.9	349.1	336.9	157.2	205.5	228.2	187.4	113.3
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°	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4	3602.4
2.5°	3578.1	3578.1	3597.8	3631.0	3655.3	3677.8	3693.0	3717.2	3730.7	3729.2	3727.8
5°	3553.9	3569.1	3608.4	3649.2	3676.3	3694.5	3694.5	3705.1	3705.1	3700.6	3694.5
7.5°	3498.1	3523.8	3581.2	3617.5	3625.0	3605.3	3566.1	3535.8	3498.1	3478.5	3470.8
10°	3408.9	3442.2	3514.8	3531.4	3492.0	3422.5	3327.4	3245.8	3173.2	3140.0	3129.4
12.5°	3321.3	3365.0	3433.2	3407.5	3313.8	3177.7	3031.2	2919.4	2837.8	2806.0	2795.4
15°	3248.8	3301.7	3354.6	3274.5	3111.2	2922.3	2760.7	2656.4	2594.5	2570.4	2564.2
17.5°	3200.4	3262.4	3280.5	3131.0	2904.2	2692.7	2549.1	2481.2	2454.0	2443.4	2440.3
20°	3203.5	3273.0	3229.1	2991.8	2704.8	2491.7	2396.5	2376.9	2376.9	2376.9	2375.4
22.5°	3286.5	3346.9	3208.0	2861.9	2512.9	2322.6	2281.7	2298.3	2310.4	2310.4	2308.8
25°	3458.8	3492.0	3223.0	2736.5	2333.0	2175.9	2177.4	2209.1	2219.7	2219.7	2216.8
27.5°	3721.7	3694.5	3250.3	2597.5	2156.2	2042.9	2064.1	2092.9	2100.4	2095.8	2094.3
30°	4051.2	3942.3	3273.0	2434.3	1990.0	1919.0	1937.1	1953.8	1947.8	1937.1	1935.6
32.5°	4419.9	4194.7	3259.3	2251.5	1843.5	1790.6	1801.1	1810.2	1801.1	1775.5	1775.5
35°	4785.5	4422.9	3185.4	2052.0	1727.2	1666.6	1665.2	1693.8	1692.4	1662.2	1663.7
37.5°	5105.9	4602.6	3041.8	1869.2	1627.4	1576.1	1582.1	1600.2	1609.3	1568.5	1563.9
40°	5385.4	4726.5	2839.3	1713.5	1547.3	1550.4	1533.7	1505.0	1494.4	1476.3	1473.3
42.5°	5648.2	4812.7	2624.7	1583.6	1506.4	1541.3	1485.4	1417.4	1388.6	1405.3	1415.9
45°	5906.7	4909.4	2417.7	1476.3	1455.2	1514.2	1437.0	1361.5	1328.3	1335.8	1346.4
47.5°	6222.6	5043.9	2168.4	1361.5	1376.5	1464.2	1406.8	1325.2	1275.4	1245.1	1236.0
50°	6638.0	5238.9	1845.0	1237.6	1293.4	1409.8	1381.1	1272.4	1217.9	1157.5	1142.3
52.5°	7157.9	5423.2	1518.6	1137.8	1225.5	1363.0	1338.8	1227.0	1160.5	1088.0	1075.8
55°	7676.1	5448.9	1237.6	1051.7	1148.5	1299.5	1287.4	1190.7	1097.1	1038.1	1026.1
57.5°	8038.7	5205.5	1048.7	979.2	1074.3	1221.0	1240.5	1146.9	1044.2	998.8	991.2
60°	8044.9	4623.9	933.8	930.8	1018.4	1152.9	1192.2	1095.6	1010.8	980.7	974.6
62.5°	7405.7	3726.3	859.8	894.5	977.7	1097.1	1156.0	1066.8	1003.3	991.2	985.2
65°	6207.4	2753.2	800.9	861.3	939.8	1050.2	1125.7	1057.7	1000.3	995.8	991.2
67.5°	4583.0	1887.4	751.0	819.0	897.6	1001.8	1097.1	1044.2	982.1	1000.3	994.3
70°	2883.2	1260.2	704.1	770.6	841.7	945.9	1059.3	1019.9	959.6	948.9	929.2
72.5°	1627.4	911.1	648.2	708.6	769.0	871.9	1007.9	979.2	908.2	865.9	846.2
73°	1470.3	862.8	634.7	693.6	752.5	856.8	995.8	967.1	893.0	846.2	828.0
75°	1075.8	705.7	572.7	631.6	683.0	787.2	938.3	906.7	826.5	770.6	758.6
77.5°	779.7	544.0	492.6	545.5	590.9	690.5	852.2	815.9	737.4	707.1	695.1
80°	562.1	412.6	408.0	459.3	498.7	600.0	760.0	722.3	646.7	735.9	716.2
82.5°	335.4	264.4	299.2	356.6	397.3	503.1	660.4	616.6	544.0	550.0	468.4
85°	160.2	149.5	185.8	234.3	262.9	344.5	550.0	515.2	435.2	356.6	349.1
87.5°	71.0	68.0	89.1	104.3	140.5	207.0	376.3	333.9	315.8	188.9	148.0
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)