

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: P195880

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195880
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-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 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: 24590 lumens
Efficiency: N/A
Efficacy: 109.3 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

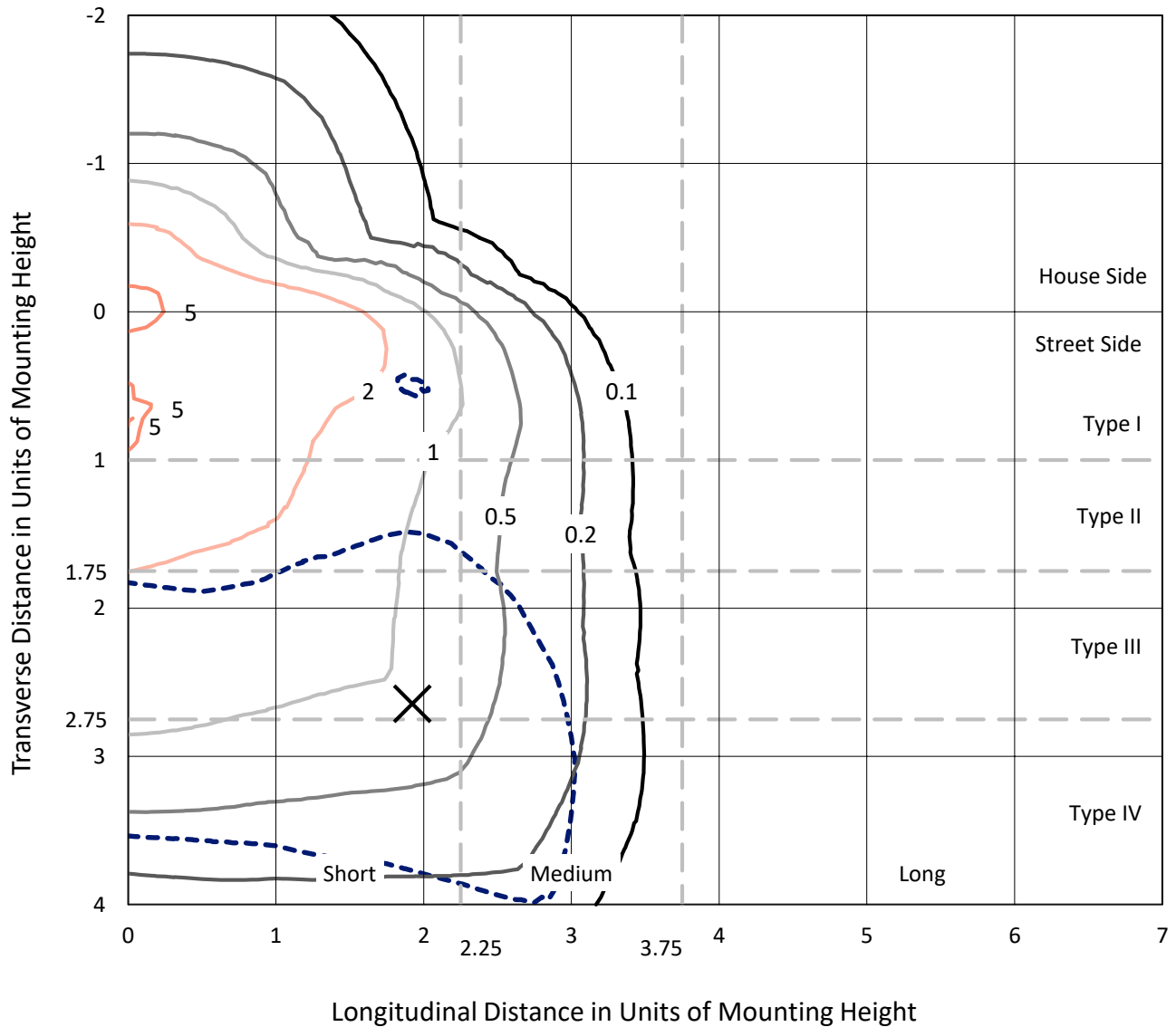
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

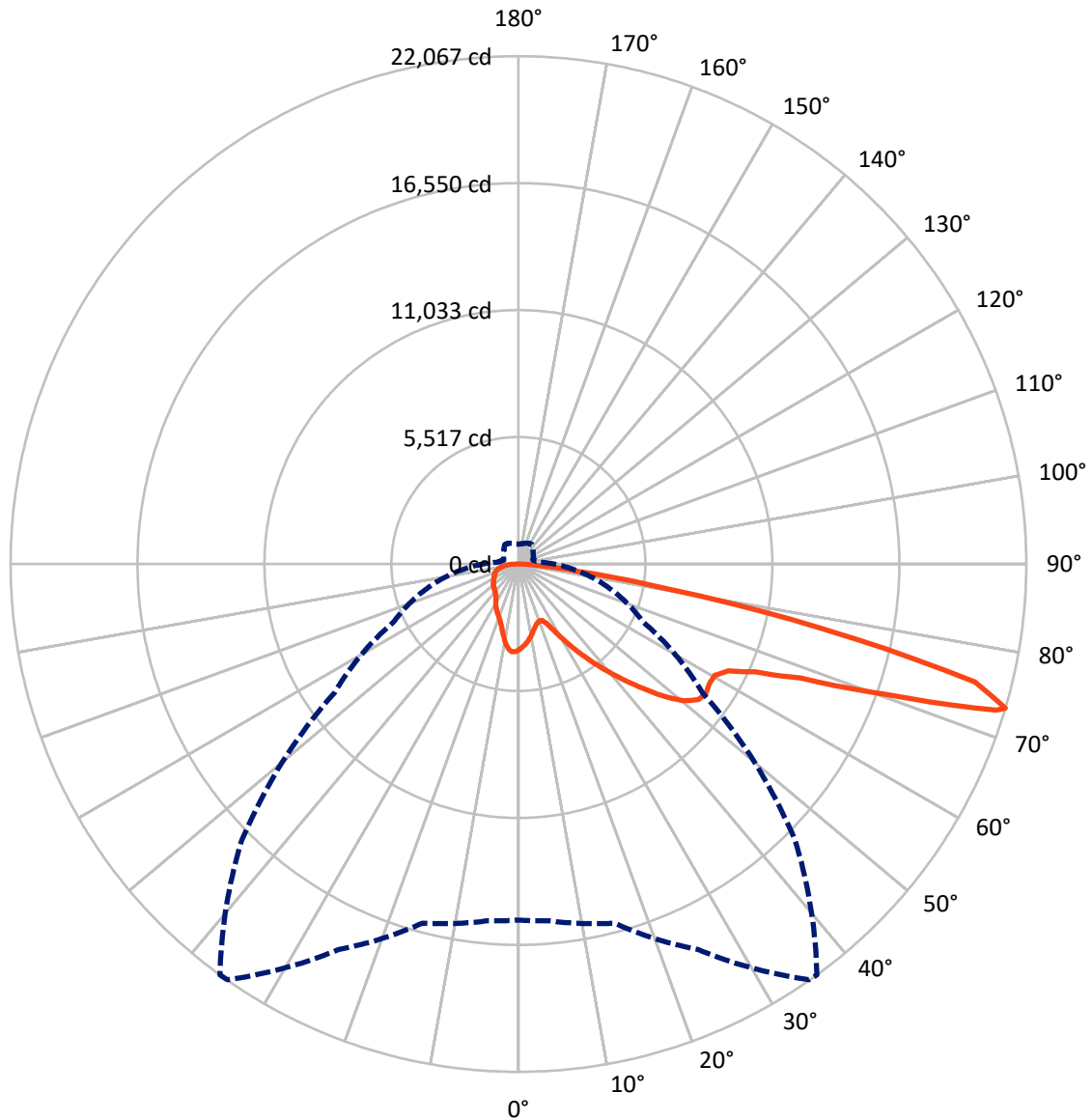
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6 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	4741.7	0.0	4741.7
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	19848.3	0.0	19848.3
	% Fixture	80.7	0.0	80.7
Total	Lumens	24590.0	0.0	24590.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	338.3	1.4
10°-20°	849.7	3.5
20°-30°	1362.3	5.5
30°-40°	2253.3	9.2
40°-50°	3486.7	14.2
50°-60°	4667.6	19.0
60°-70°	6097.4	24.8
70°-80°	4980.5	20.3
80°-90°	554.4	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°	24590.0	100.0
0°-180°	24590.0	100.0



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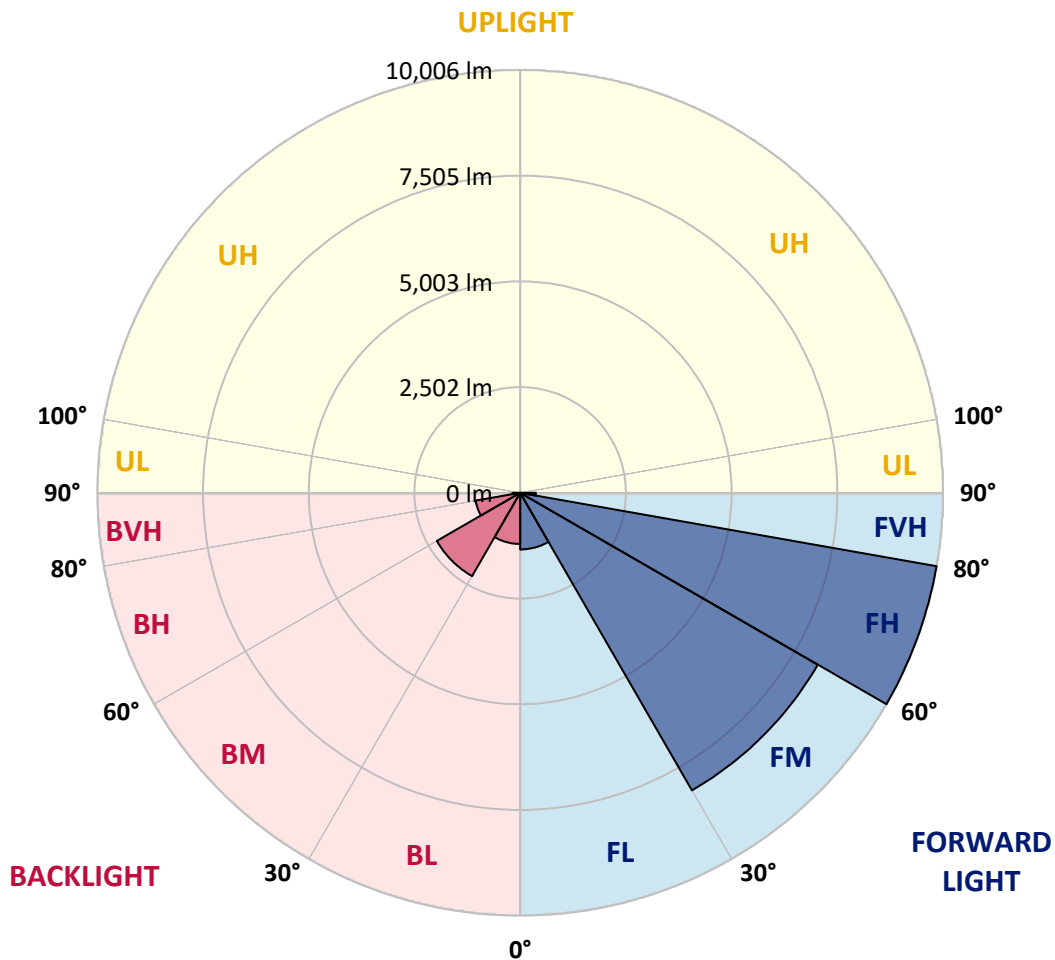
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1339.9	5.4			
FM (30°-60°)	8130.3	33.1			
FH (60°-80°)	10006.3	40.7			G4/12000
FVH (80°-90°)	371.8	1.5			G3/500
BL (0°-30°)	1210.4	4.9	B3/2500		
BM (30°-60°)	2277.2	9.3	B2/2500		
BH (60°-80°)	1071.5	4.4	B3/2500		G3/2500
BVH (80°-90°)	182.6	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°	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7
2.5°	3582.5	3591.9	3593.4	3604.4	3604.4	3602.8	3607.5	3626.2	3635.6	3657.5	3676.2
5°	3405.9	3416.9	3421.6	3440.3	3463.8	3465.3	3482.5	3518.4	3552.8	3601.2	3641.9
7.5°	3207.5	3220.0	3232.5	3271.6	3306.0	3309.1	3341.9	3399.7	3445.0	3504.4	3577.8
10°	3015.4	3018.5	3031.0	3081.0	3126.3	3131.0	3177.8	3243.5	3304.4	3387.2	3470.0
12.5°	2857.6	2866.9	2863.8	2901.3	2940.4	2943.5	3006.0	3088.8	3177.8	3271.6	3370.0
15°	2802.9	2801.3	2768.5	2766.9	2784.1	2787.3	2848.2	2945.1	3045.0	3160.7	3287.2
17.5°	2840.4	2827.9	2741.9	2688.8	2677.9	2681.0	2726.3	2832.6	2938.8	3071.6	3223.2
20°	3046.6	2998.2	2796.6	2668.5	2632.6	2632.6	2659.1	2745.1	2862.2	3016.9	3207.5
22.5°	3535.6	3460.6	3031.0	2802.9	2676.3	2663.8	2643.5	2709.1	2838.8	3024.7	3271.6
25°	4151.2	4115.3	3460.6	3160.7	2899.7	2859.1	2724.8	2748.2	2887.2	3109.1	3446.6
27.5°	4721.5	4659.0	4024.6	3680.9	3312.2	3249.7	2965.4	2870.1	3002.9	3265.3	3699.7
30°	5054.2	5012.1	4604.3	4276.2	3837.2	3757.5	3349.7	3110.7	3209.1	3523.1	4059.0
32.5°	5416.7	5391.7	5185.5	4887.1	4405.9	4313.7	3846.5	3502.8	3524.7	3865.3	4491.8
35°	5768.2	5801.0	5683.9	5465.1	5018.3	4932.4	4513.7	4015.3	3913.7	4249.6	4954.2
37.5°	6190.1	6197.9	6124.5	5982.3	5662.0	5591.7	5246.4	4562.1	4337.1	4659.0	5401.1
40°	7032.2	6908.8	6621.3	6508.8	6318.2	6274.4	5880.7	5063.6	4730.8	5079.2	5822.9
42.5°	7943.0	7750.9	7300.9	7116.6	7040.0	6999.4	6408.8	5398.0	5099.5	5499.5	6236.9
45°	8677.4	8521.1	8080.5	7852.4	7861.8	7796.2	6869.7	5696.4	5499.5	5921.4	6699.4
47.5°	9400.7	9139.8	8646.1	8613.3	8722.7	8625.8	7310.3	5994.8	5916.7	6380.7	7161.9
50°	9447.6	9210.1	9010.1	9272.6	9460.1	9339.8	7710.3	6385.4	6349.4	6936.9	7758.7
52.5°	8877.3	8843.0	9147.6	9589.8	9900.7	9792.9	8036.8	6786.9	6791.6	7632.1	8485.2
55°	8669.5	8625.8	8991.4	9535.1	9955.4	9891.3	8280.5	7240.0	7282.2	8475.8	9264.8
57.5°	9019.5	8910.1	8982.0	9432.0	9827.3	9789.8	8533.6	7743.1	7819.6	9447.6	9985.1
60°	10105.4	9881.9	9500.7	9585.1	9831.9	9810.1	8896.1	8304.0	8432.1	10460.0	10441.3
62.5°	11731.8	11478.7	10702.2	10327.2	10272.5	10230.3	9494.5	8993.0	9057.0	11191.2	10175.7
65°	13516.0	13244.1	12320.8	11706.8	11384.9	11294.3	10460.0	9824.1	9422.6	11189.6	9141.4
67.5°	15518.9	15231.5	14311.2	13725.3	13376.9	13222.3	12027.1	10495.9	9303.9	10242.8	7315.0
70°	17570.3	17296.9	16875.1	17079.7	17232.8	16996.9	14495.6	10719.4	8450.8	8030.5	4912.1
72.5°	16481.4	16459.5	16779.8	18720.2	21671.5	21718.4	16961.0	10088.2	6529.1	4773.0	2618.5
73°	15470.5	15562.7	16156.4	18478.0	22051.2	22066.8	17009.4	9761.6	5994.8	4112.1	2299.8
75°	8014.9	8639.9	10842.8	14983.0	20418.5	20491.9	14994.0	7390.0	3573.1	2284.2	1549.9
77.5°	2146.7	2118.6	3493.4	7299.4	13612.9	13516.0	9474.2	3577.8	1712.3	1432.7	1087.4
80°	735.9	745.2	1189.0	2670.1	6354.1	6580.7	4112.1	1560.8	1126.5	998.3	770.2
82.5°	375.0	387.5	621.8	1135.8	2657.6	2601.3	1323.3	918.7	754.6	606.2	431.2
85°	200.0	206.2	342.2	589.0	974.9	985.9	465.6	490.6	479.6	343.7	212.5
87.5°	98.4	101.6	164.0	259.4	360.9	348.4	162.5	212.5	235.9	193.7	117.2
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°	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7	3724.7
2.5°	3699.7	3699.7	3720.0	3754.4	3779.4	3802.8	3818.4	3843.4	3857.5	3855.9	3854.3
5°	3674.7	3690.3	3730.9	3773.1	3801.2	3820.0	3820.0	3830.9	3830.9	3826.2	3820.0
7.5°	3616.9	3643.4	3702.8	3740.3	3748.1	3727.8	3687.2	3655.9	3616.9	3596.6	3588.7
10°	3524.7	3559.1	3634.1	3651.2	3610.6	3538.7	3440.3	3356.0	3281.0	3246.6	3235.7
12.5°	3434.1	3479.4	3549.7	3523.1	3426.3	3285.6	3134.1	3018.5	2934.1	2901.3	2890.4
15°	3359.1	3413.8	3468.4	3385.6	3216.9	3021.6	2854.4	2746.6	2682.6	2657.6	2651.3
17.5°	3309.1	3373.1	3391.9	3237.2	3002.9	2784.1	2635.7	2565.4	2537.3	2526.3	2523.2
20°	3312.2	3384.1	3338.8	3093.5	2796.6	2576.3	2477.9	2457.6	2457.6	2457.6	2456.0
22.5°	3398.1	3460.6	3316.9	2959.1	2598.2	2401.3	2359.2	2376.4	2388.9	2388.9	2387.3
25°	3576.2	3610.6	3332.5	2829.4	2412.3	2249.8	2251.4	2284.2	2295.1	2295.1	2292.0
27.5°	3848.1	3820.0	3360.6	2685.7	2229.5	2112.3	2134.2	2163.9	2171.7	2167.0	2165.4
30°	4188.7	4076.2	3384.1	2517.0	2057.6	1984.2	2002.9	2020.1	2013.9	2002.9	2001.4
32.5°	4569.9	4337.1	3370.0	2327.9	1906.1	1851.4	1862.3	1871.7	1862.3	1835.8	1835.8
35°	4948.0	4573.0	3293.5	2121.7	1785.8	1723.3	1721.7	1751.4	1749.8	1718.6	1720.2
37.5°	5279.2	4759.0	3145.0	1932.6	1682.7	1629.5	1635.8	1654.5	1663.9	1621.7	1617.0
40°	5568.3	4887.1	2935.7	1771.7	1599.9	1603.0	1585.8	1556.1	1545.2	1526.4	1523.3
42.5°	5840.1	4976.1	2713.8	1637.4	1557.7	1593.6	1535.8	1465.5	1435.8	1453.0	1463.9
45°	6107.3	5076.1	2499.8	1526.4	1504.6	1565.5	1485.8	1407.7	1373.3	1381.1	1392.1
47.5°	6433.8	5215.2	2242.0	1407.7	1423.3	1513.9	1454.6	1370.2	1318.6	1287.4	1278.0
50°	6863.5	5416.7	1907.6	1279.6	1337.4	1457.7	1428.0	1315.5	1259.3	1196.8	1181.1
52.5°	7400.9	5607.3	1570.2	1176.5	1267.1	1409.3	1384.3	1268.6	1199.9	1124.9	1112.4
55°	7936.8	5633.9	1279.6	1087.4	1187.4	1343.6	1331.1	1231.1	1134.3	1073.3	1060.8
57.5°	8311.8	5382.3	1084.3	1012.4	1110.8	1262.4	1282.7	1185.8	1079.6	1032.7	1024.9
60°	8318.0	4780.8	965.5	962.4	1053.0	1192.1	1232.7	1132.7	1045.2	1014.0	1007.7
62.5°	7657.1	3852.8	889.0	924.9	1010.8	1134.3	1195.2	1103.0	1037.4	1024.9	1018.7
65°	6418.2	2846.6	828.1	890.5	971.8	1085.8	1164.0	1093.7	1034.3	1029.6	1024.9
67.5°	4738.6	1951.4	776.5	846.8	928.0	1035.8	1134.3	1079.6	1015.5	1034.3	1028.0
70°	2981.0	1303.0	728.1	796.8	870.2	978.0	1095.2	1054.6	992.1	981.2	960.9
72.5°	1682.7	942.1	670.3	732.7	795.2	901.5	1042.1	1012.4	939.0	895.2	874.9
73°	1520.2	892.1	656.2	717.1	778.1	885.9	1029.6	999.9	923.4	874.9	856.2
75°	1112.4	729.6	592.1	653.1	706.2	814.0	970.2	937.4	854.6	796.8	784.3
77.5°	806.2	562.5	509.3	564.0	610.9	714.0	881.2	843.7	762.4	731.2	718.7
80°	581.2	426.5	421.8	475.0	515.6	620.3	785.9	746.8	668.7	760.9	740.6
82.5°	346.8	273.4	309.3	368.7	410.9	520.3	682.8	637.4	562.5	568.7	484.3
85°	165.6	154.7	192.2	242.2	271.9	356.2	568.7	532.8	450.0	368.7	360.9
87.5°	73.4	70.3	92.2	107.8	145.3	214.0	389.0	345.3	326.5	195.3	153.1
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)