

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: P196355

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196355
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-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 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: 25049 lumens
Efficiency: N/A
Efficacy: 119.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

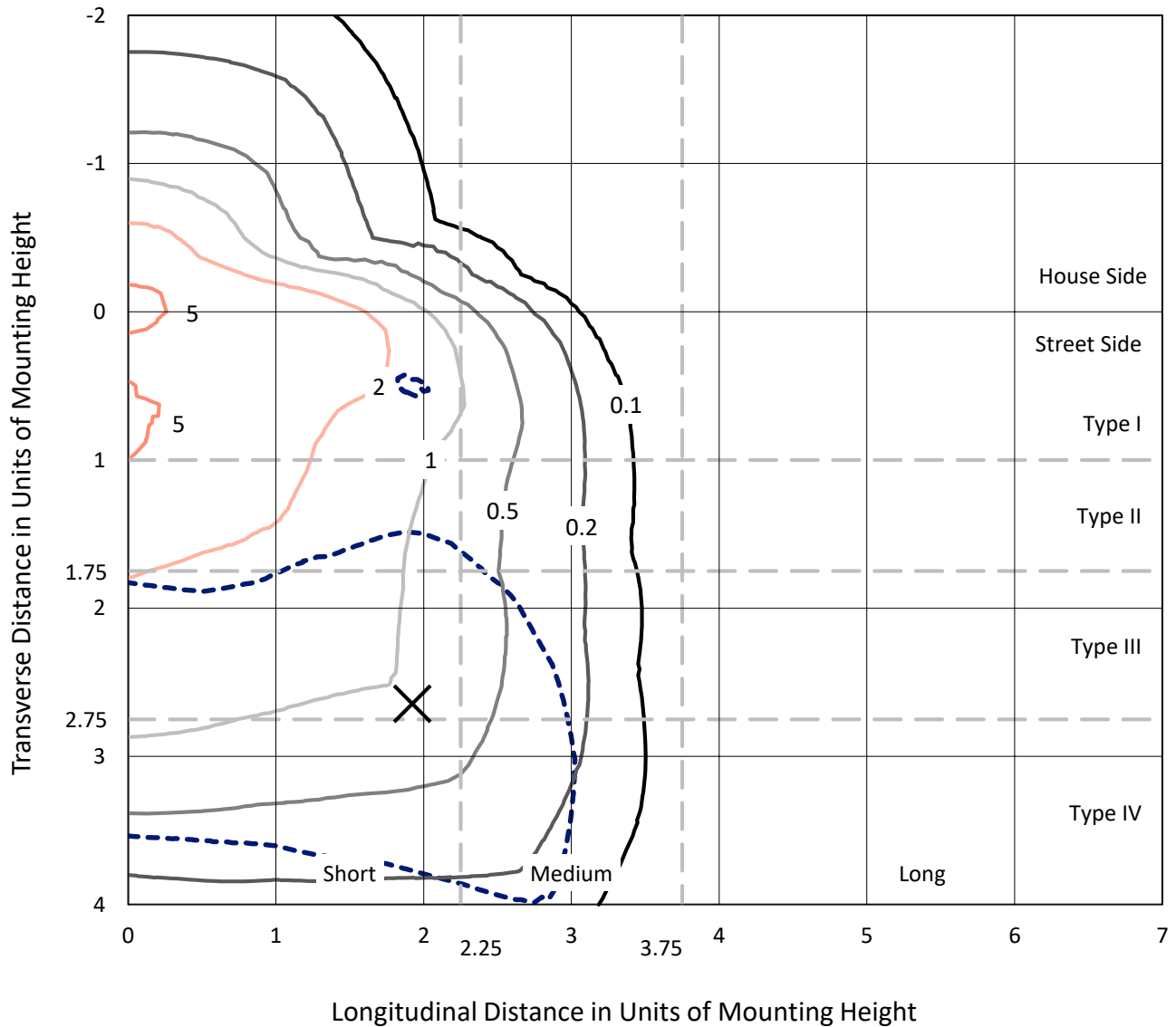
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

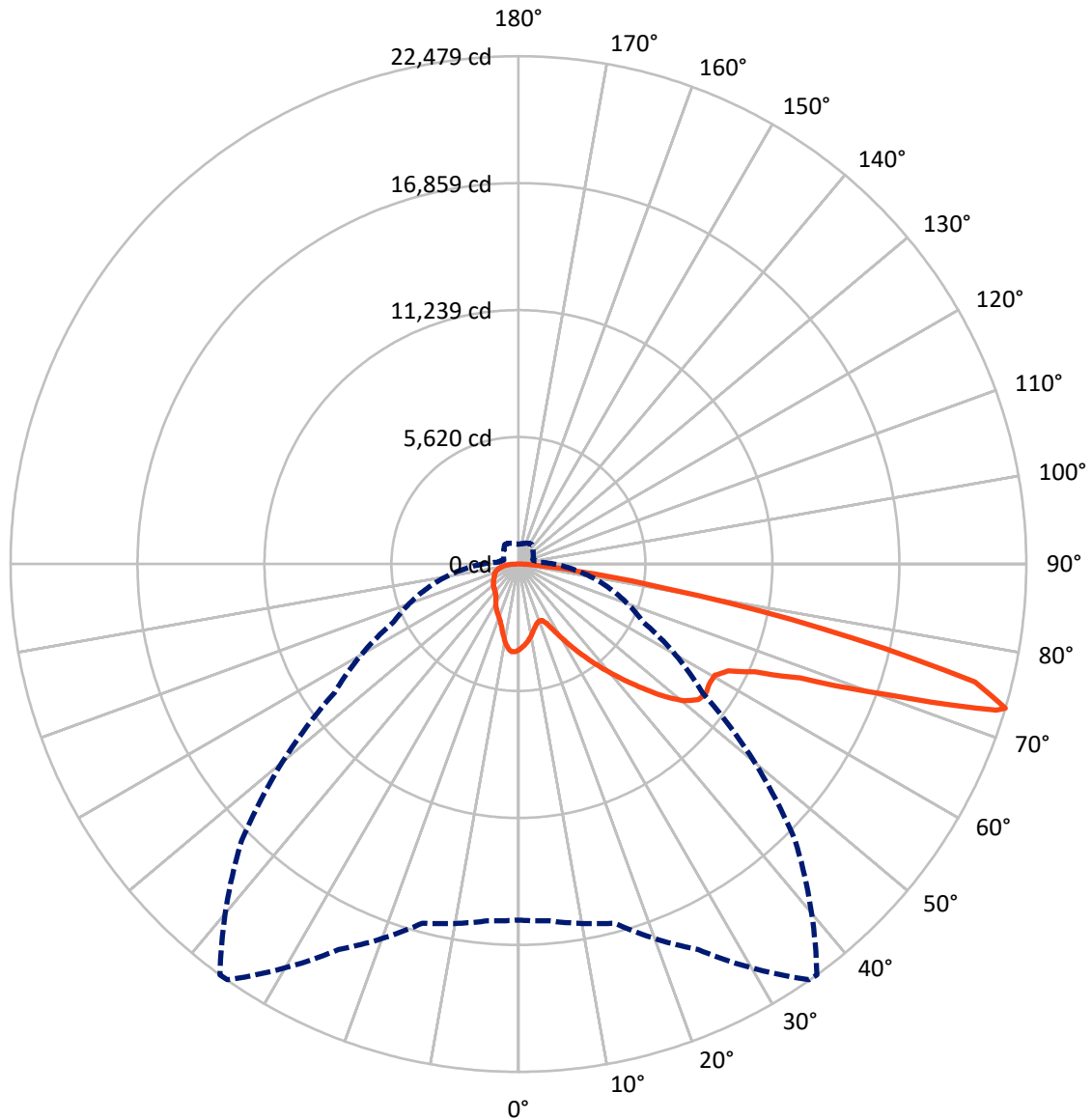
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.1 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	4830.2	0.0	4830.2
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	20218.8	0.0	20218.8
	% Fixture	80.7	0.0	80.7
Total	Lumens	25049.0	0.0	25049.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	344.6	1.4
10°-20°	865.5	3.5
20°-30°	1387.7	5.5
30°-40°	2295.3	9.2
40°-50°	3551.8	14.2
50°-60°	4754.7	19.0
60°-70°	6211.2	24.8
70°-80°	5073.4	20.3
80°-90°	564.7	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°	25049.0	100.0
0°-180°	25049.0	100.0



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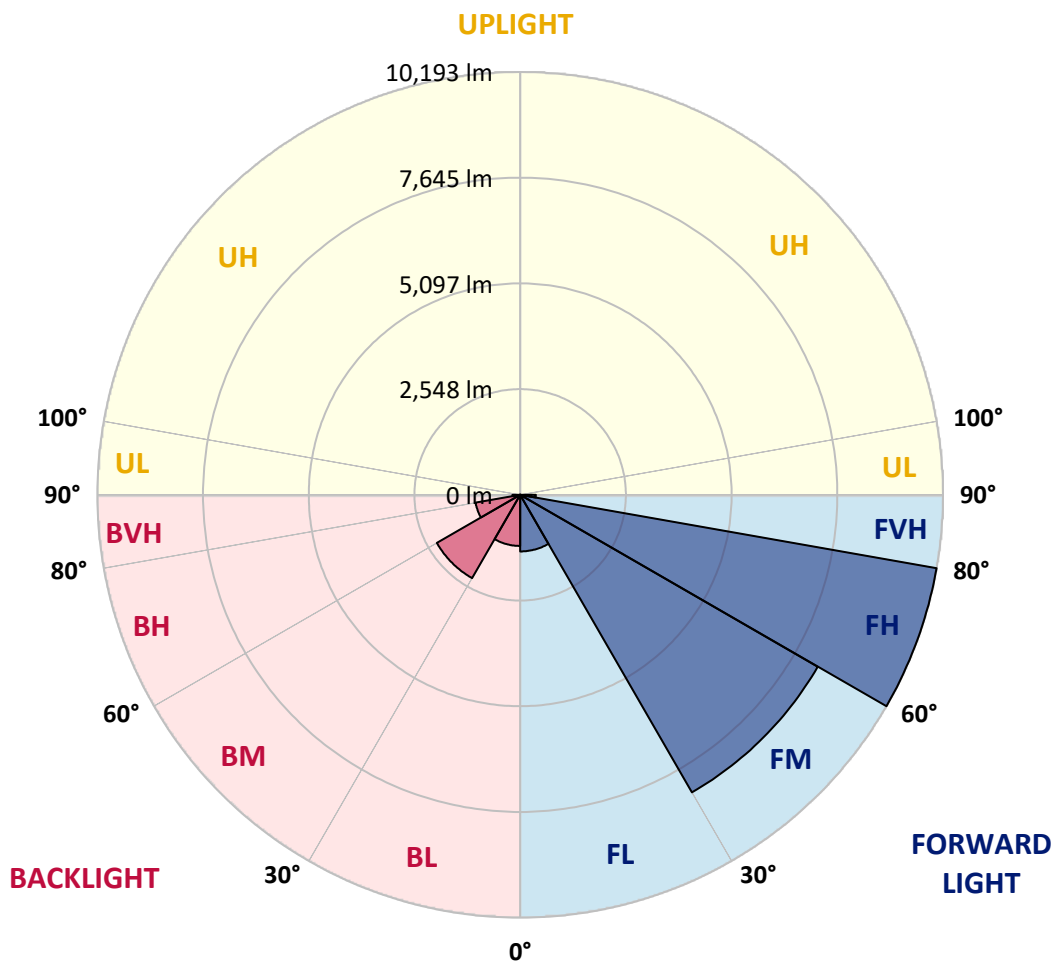
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1364.9	5.4			
FM	(30°-60°)	8282.1	33.1			
FH	(60°-80°)	10193.1	40.7			G4/12000
FVH	(80°-90°)	378.7	1.5			G3/500
BL	(0°-30°)	1233.0	4.9	B3/2500		
BM	(30°-60°)	2319.7	9.3	B2/2500		
BH	(60°-80°)	1091.5	4.4	B3/2500		G3/2500
BVH	(80°-90°)	186.0	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°	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2
2.5°	3649.4	3658.9	3660.5	3671.7	3671.7	3670.0	3674.8	3694.0	3703.5	3725.8	3744.8
5°	3469.5	3480.7	3485.4	3504.5	3528.4	3530.0	3547.5	3584.1	3619.1	3668.5	3709.8
7.5°	3267.4	3280.1	3292.9	3332.7	3367.7	3370.8	3404.3	3463.2	3509.3	3569.8	3644.6
10°	3071.6	3074.8	3087.6	3138.5	3184.7	3189.5	3237.1	3304.0	3366.1	3450.4	3534.8
12.5°	2910.9	2920.4	2917.3	2955.5	2995.2	2998.5	3062.1	3146.5	3237.1	3332.7	3432.9
15°	2855.2	2853.6	2820.2	2818.6	2836.1	2839.3	2901.4	3000.0	3101.9	3219.6	3348.5
17.5°	2893.4	2880.6	2793.2	2739.1	2727.9	2731.1	2777.2	2885.4	2993.7	3128.9	3283.4
20°	3103.4	3054.1	2848.8	2718.3	2681.8	2681.8	2708.8	2796.3	2915.7	3073.3	3267.4
22.5°	3601.6	3525.2	3087.6	2855.2	2726.3	2713.6	2692.8	2759.7	2891.8	3081.2	3332.7
25°	4228.7	4192.1	3525.2	3219.6	2953.9	2912.4	2775.6	2799.5	2941.2	3167.2	3510.9
27.5°	4809.6	4745.9	4099.8	3749.6	3374.0	3310.4	3020.7	2923.6	3058.9	3326.3	3768.8
30°	5148.6	5105.6	4690.2	4356.0	3908.8	3827.6	3412.3	3168.7	3268.9	3588.9	4134.8
32.5°	5517.8	5492.3	5282.3	4978.3	4488.1	4394.2	3918.3	3568.2	3590.5	3937.4	4575.7
35°	5875.9	5909.3	5790.0	5567.1	5112.0	5024.4	4598.0	4090.3	3986.7	4328.9	5046.7
37.5°	6305.6	6313.6	6238.8	6093.9	5767.7	5696.1	5344.3	4647.3	4418.0	4745.9	5501.9
40°	7163.4	7037.7	6744.9	6630.3	6436.1	6391.6	5990.5	5158.1	4819.1	5174.1	5931.6
42.5°	8091.3	7895.5	7437.2	7249.3	7171.4	7130.1	6528.5	5498.7	5194.7	5602.2	6353.3
45°	8839.3	8680.1	8231.4	7999.0	8008.6	7941.7	6997.9	5802.7	5602.2	6031.8	6824.4
47.5°	9576.3	9310.4	8807.5	8774.1	8885.5	8786.8	7446.8	6106.7	6027.1	6499.8	7295.6
50°	9623.9	9382.0	9178.3	9445.7	9636.7	9514.2	7854.2	6504.5	6467.9	7066.3	7903.5
52.5°	9043.1	9008.0	9318.4	9768.8	10085.5	9975.7	8186.8	6913.6	6918.3	7774.6	8643.5
55°	8831.3	8786.8	9159.2	9713.1	10141.2	10076.0	8435.0	7375.2	7418.1	8634.0	9437.7
57.5°	9187.8	9076.4	9149.7	9608.1	10010.7	9972.5	8692.9	7887.6	7965.6	9623.9	10171.4
60°	10294.0	10066.3	9678.0	9764.0	10015.5	9993.2	9062.1	8459.0	8589.4	10655.3	10636.1
62.5°	11950.7	11692.9	10901.9	10520.0	10464.3	10421.3	9671.7	9160.8	9226.1	11400.1	10365.6
65°	13768.3	13491.4	12550.8	11925.3	11597.4	11505.1	10655.3	10007.5	9598.4	11398.5	9312.0
67.5°	15808.6	15515.8	14578.4	13981.6	13626.6	13469.1	12251.6	10691.9	9477.5	10434.0	7451.5
70°	17898.3	17619.8	17190.1	17398.6	17554.6	17314.2	14766.2	10919.5	8608.5	8180.4	5003.8
72.5°	16789.0	16766.7	17093.0	19069.6	22076.0	22123.8	17277.6	10276.5	6651.0	4862.1	2667.3
73°	15759.3	15853.2	16457.9	18823.0	22462.8	22478.7	17326.9	9943.8	6106.7	4188.9	2342.8
75°	8164.5	8801.2	11045.2	15262.7	20799.7	20874.4	15273.9	7527.9	3639.9	2326.8	1578.8
77.5°	2186.8	2158.1	3558.6	7435.6	13866.9	13768.3	9651.0	3644.6	1744.3	1459.4	1107.7
80°	749.6	759.1	1211.2	2719.9	6472.7	6703.5	4188.9	1590.0	1147.4	1017.0	784.6
82.5°	382.0	394.7	633.4	1157.1	2707.1	2649.9	1348.0	935.8	768.7	617.6	439.3
85°	203.7	210.1	348.5	600.0	993.1	1004.2	474.2	499.7	488.6	350.2	216.5
87.5°	100.2	103.4	167.2	264.2	367.6	354.9	165.5	216.5	240.3	197.3	119.4
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°	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2	3794.2
2.5°	3768.8	3768.8	3789.4	3824.4	3849.9	3873.8	3889.7	3915.1	3929.5	3927.9	3926.3
5°	3743.3	3759.1	3800.6	3843.5	3872.2	3891.3	3891.3	3902.5	3902.5	3897.6	3891.3
7.5°	3684.4	3711.5	3771.9	3810.1	3818.1	3797.4	3756.0	3724.2	3684.4	3663.7	3655.7
10°	3590.5	3625.5	3701.9	3719.3	3678.0	3604.8	3504.5	3418.6	3342.2	3307.2	3296.0
12.5°	3498.2	3544.3	3615.9	3588.9	3490.2	3347.0	3192.6	3074.8	2988.9	2955.5	2944.4
15°	3421.8	3477.5	3533.2	3448.9	3276.9	3078.1	2907.7	2797.9	2732.6	2707.1	2700.8
17.5°	3370.8	3436.1	3455.2	3297.7	3058.9	2836.1	2684.9	2613.3	2584.6	2573.5	2570.3
20°	3374.0	3447.2	3401.1	3151.2	2848.8	2624.4	2524.1	2503.5	2503.5	2503.5	2501.8
22.5°	3461.6	3525.2	3378.8	3014.3	2646.7	2446.2	2403.2	2420.7	2433.4	2433.4	2431.9
25°	3643.0	3678.0	3394.8	2882.3	2457.3	2291.8	2293.4	2326.8	2338.0	2338.0	2334.8
27.5°	3919.9	3891.3	3423.4	2735.8	2271.2	2151.8	2174.0	2204.3	2212.2	2207.4	2205.9
30°	4266.8	4152.3	3447.2	2563.9	2096.0	2021.2	2040.4	2057.9	2051.4	2040.4	2038.7
32.5°	4655.2	4418.0	3432.9	2371.4	1941.7	1885.9	1897.1	1906.7	1897.1	1870.1	1870.1
35°	5040.4	4658.4	3355.0	2161.3	1819.1	1755.5	1753.8	1784.1	1782.5	1750.7	1752.3
37.5°	5377.8	4847.8	3203.8	1968.7	1714.1	1659.9	1666.3	1685.4	1694.9	1652.0	1647.3
40°	5672.2	4978.3	2990.5	1804.8	1629.8	1632.9	1615.4	1585.2	1574.0	1554.9	1551.7
42.5°	5949.1	5069.0	2764.5	1667.9	1586.7	1623.3	1564.5	1492.9	1462.6	1480.1	1491.3
45°	6221.3	5170.9	2546.4	1554.9	1532.7	1594.7	1513.6	1434.0	1399.0	1406.9	1418.0
47.5°	6553.9	5312.5	2283.8	1434.0	1449.8	1542.2	1481.7	1395.8	1343.2	1311.4	1301.9
50°	6991.6	5517.8	1943.3	1303.4	1362.4	1484.9	1454.6	1340.1	1282.8	1219.2	1203.2
52.5°	7539.0	5712.0	1599.5	1198.4	1290.8	1435.5	1410.1	1292.3	1222.3	1145.9	1133.1
55°	8085.0	5739.1	1303.4	1107.7	1209.5	1368.7	1356.0	1254.1	1155.4	1093.3	1080.6
57.5°	8466.9	5482.8	1104.5	1031.3	1131.6	1286.0	1306.6	1208.0	1099.8	1052.0	1044.0
60°	8473.3	4870.1	983.6	980.4	1072.7	1214.3	1255.7	1153.9	1064.7	1032.9	1026.5
62.5°	7800.1	3924.7	905.6	942.1	1029.7	1155.4	1217.5	1123.6	1056.8	1044.0	1037.7
65°	6538.0	2899.8	843.5	907.2	989.9	1106.1	1185.7	1114.1	1053.6	1048.8	1044.0
67.5°	4827.1	1987.8	790.9	862.7	945.4	1055.2	1155.4	1099.8	1034.5	1053.6	1047.2
70°	3036.6	1327.4	741.6	811.7	886.5	996.3	1115.6	1074.3	1010.6	999.5	978.8
72.5°	1714.1	959.7	682.7	746.4	810.1	918.3	1061.5	1031.3	956.5	912.0	891.3
73°	1548.5	908.8	668.4	730.5	792.6	902.3	1048.8	1018.6	940.6	891.3	872.2
75°	1133.1	743.3	603.2	665.2	719.3	829.2	988.4	954.9	870.5	811.7	798.9
77.5°	821.2	573.0	518.8	574.6	622.3	727.3	897.6	859.4	776.6	744.8	732.1
80°	592.1	434.4	429.7	483.9	525.2	631.9	800.6	760.8	681.2	775.1	754.4
82.5°	353.3	278.5	315.2	375.6	418.6	530.0	695.5	649.4	573.0	579.3	493.4
85°	168.7	157.5	195.8	246.7	276.9	362.8	579.3	542.7	458.4	375.6	367.6
87.5°	74.8	71.6	93.9	109.9	148.0	218.0	396.3	351.7	332.7	199.0	156.0
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)