

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: P197327

Luminaire Tested: **NAV-AF-05-D-UNV-T4FT-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197327
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-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 1200mA 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: 27130 lumens
Efficiency: N/A
Efficacy: 84.8 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): 320
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

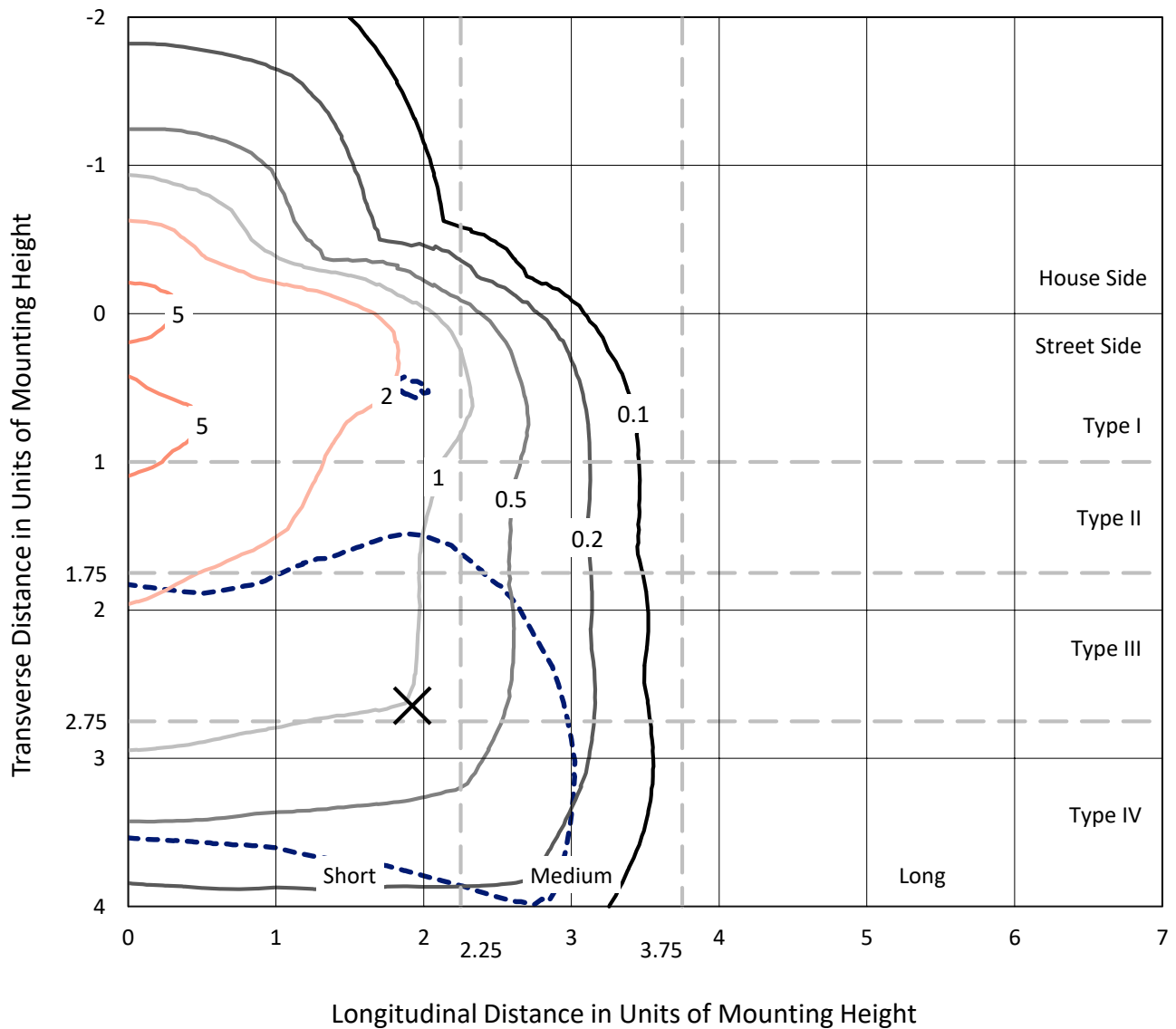


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Iso-Footcandle Lines of Horizontal Illumination

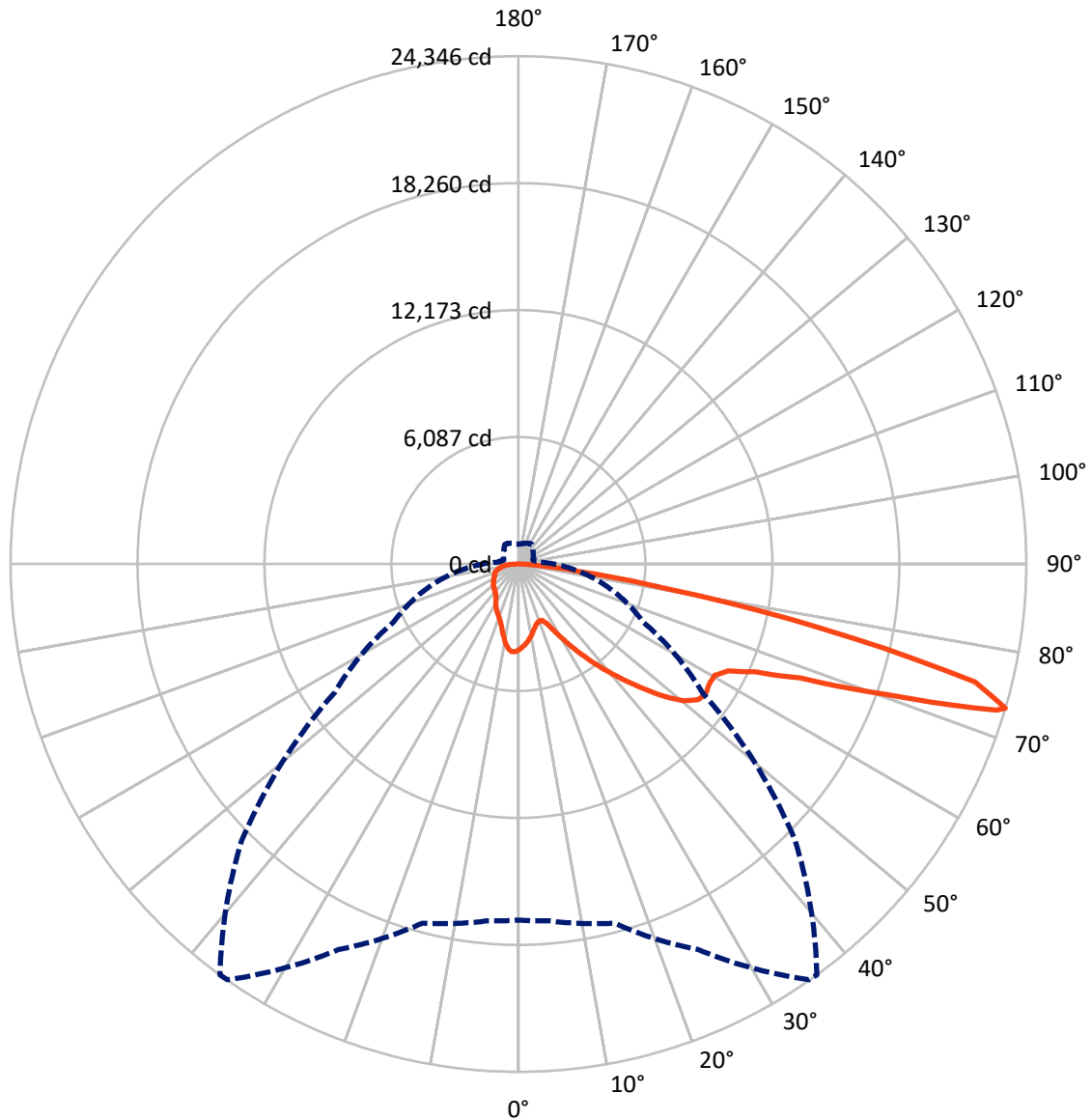
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.6 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	5231.5	0.0	5231.5
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	21898.5	0.0	21898.5
	% Fixture	80.7	0.0	80.7
Total	Lumens	27130.0	0.0	27130.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	373.3	1.4
10°-20°	937.4	3.5
20°-30°	1503.0	5.5
30°-40°	2486.0	9.2
40°-50°	3846.8	14.2
50°-60°	5149.7	19.0
60°-70°	6727.2	24.8
70°-80°	5494.9	20.3
80°-90°	611.6	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°	27130.0	100.0
0°-180°	27130.0	100.0



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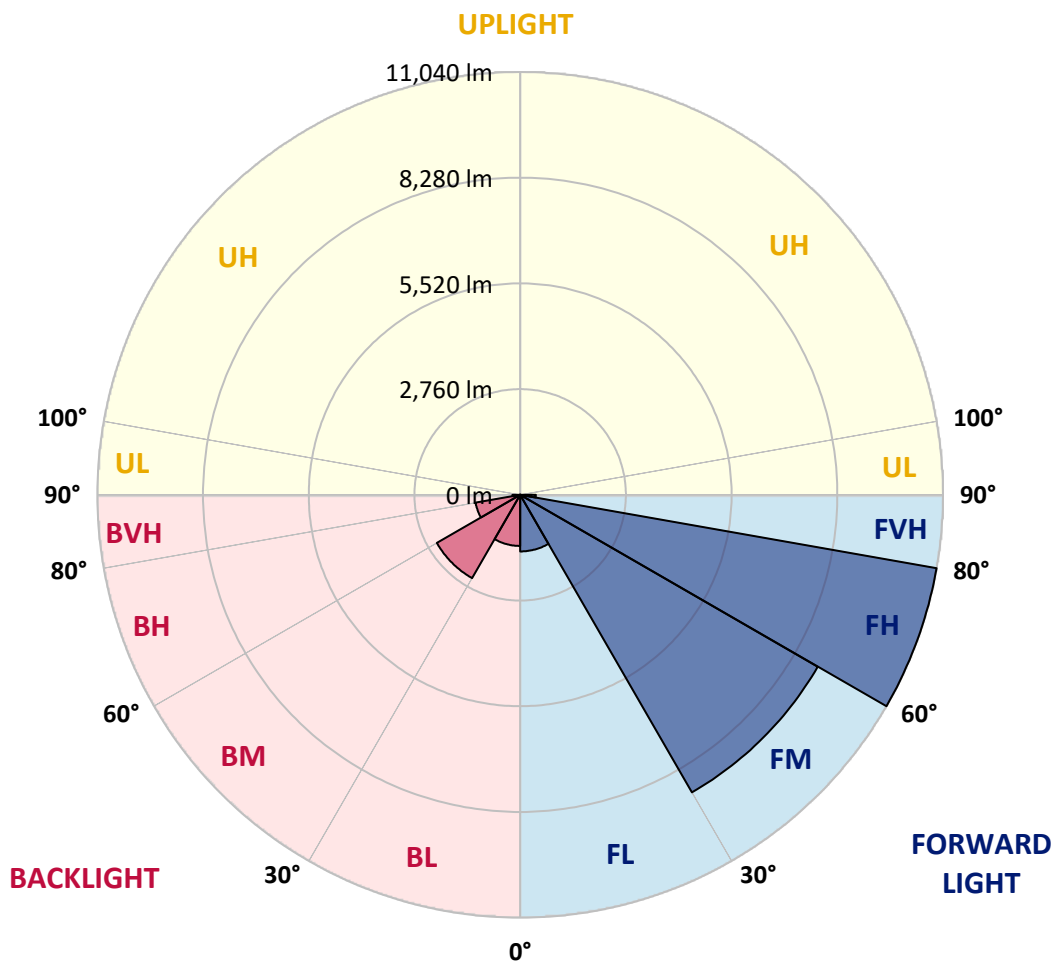
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1478.3	5.4			
FM	(30°-60°)	8970.1	33.1			
FH	(60°-80°)	11039.9	40.7			G4/12000
FVH	(80°-90°)	410.2	1.5			G3/500
BL	(0°-30°)	1335.4	4.9	B3/2500		
BM	(30°-60°)	2512.4	9.3	B3/5000		
BH	(60°-80°)	1182.2	4.4	B3/2500		G3/2500
BVH	(80°-90°)	201.4	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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4
2.5°	3952.5	3962.9	3964.6	3976.7	3976.7	3975.0	3980.1	4000.8	4011.2	4035.3	4056.0
5°	3757.8	3769.8	3775.0	3795.7	3821.5	3823.3	3842.2	3881.9	3919.8	3973.2	4018.0
7.5°	3538.8	3552.6	3566.4	3609.5	3647.4	3650.9	3687.1	3750.9	3800.9	3866.4	3947.4
10°	3326.8	3330.3	3344.1	3399.2	3449.2	3454.4	3506.1	3578.5	3645.7	3737.1	3828.4
12.5°	3152.7	3163.1	3159.6	3201.0	3244.1	3247.5	3316.5	3407.8	3506.1	3609.5	3718.1
15°	3092.4	3090.7	3054.5	3052.8	3071.7	3075.2	3142.4	3249.3	3359.6	3487.1	3626.8
17.5°	3133.8	3120.0	3025.2	2966.6	2954.5	2957.9	3007.9	3125.1	3242.4	3388.9	3556.1
20°	3361.3	3307.9	3085.5	2944.2	2904.5	2904.5	2933.8	3028.6	3157.9	3328.5	3538.8
22.5°	3900.8	3818.1	3344.1	3092.4	2952.8	2939.0	2916.6	2989.0	3132.0	3337.2	3609.5
25°	4580.0	4540.3	3818.1	3487.1	3199.3	3154.5	3006.2	3032.1	3185.5	3430.3	3802.6
27.5°	5209.2	5140.2	4440.4	4061.1	3654.3	3585.4	3271.7	3166.5	3313.0	3602.6	4081.8
30°	5576.3	5529.8	5079.9	4717.9	4233.5	4145.6	3695.7	3432.0	3540.6	3887.0	4478.3
32.5°	5976.2	5948.6	5721.1	5391.9	4861.0	4759.3	4243.9	3864.6	3888.8	4264.5	4955.8
35°	6364.1	6400.3	6271.0	6029.7	5536.7	5441.9	4979.9	4430.0	4318.0	4688.6	5466.0
37.5°	6829.5	6838.1	6757.1	6600.2	6246.8	6169.3	5788.3	5033.3	4785.1	5140.2	5959.0
40°	7758.6	7622.4	7305.2	7181.1	6970.8	6922.6	6488.2	5586.7	5219.5	5603.9	6424.4
42.5°	8763.5	8551.5	8055.1	7851.7	7767.2	7722.4	7070.8	5955.5	5626.3	6067.6	6881.2
45°	9573.7	9401.3	8915.2	8663.5	8673.9	8601.5	7579.3	6284.8	6067.6	6533.0	7391.4
47.5°	10371.8	10083.9	9539.2	9503.0	9623.7	9516.8	8065.4	6614.0	6527.8	7039.8	7901.6
50°	10423.5	10161.5	9940.8	10230.4	10437.3	10304.5	8506.7	7044.9	7005.3	7653.4	8560.1
52.5°	9794.3	9756.4	10092.5	10580.3	10923.4	10804.4	8866.9	7487.9	7493.1	8420.5	9361.7
55°	9565.1	9516.8	9920.1	10520.0	10983.7	10913.0	9135.8	7987.8	8034.4	9351.3	10221.8
57.5°	9951.2	9830.5	9909.8	10406.2	10842.4	10801.0	9415.1	8542.9	8627.3	10423.5	11016.4
60°	11149.2	10902.7	10482.1	10575.2	10847.5	10823.4	9815.0	9161.7	9303.0	11540.5	11519.8
62.5°	12943.6	12664.3	11807.6	11393.9	11333.6	11287.1	10475.2	9921.9	9992.5	12347.2	11226.7
65°	14912.1	14612.2	13593.4	12916.0	12560.9	12460.9	11540.5	10838.9	10395.9	12345.5	10085.6
67.5°	17122.0	16804.8	15789.5	15143.1	14758.7	14588.0	13269.4	11580.1	10264.9	11300.9	8070.6
70°	19385.2	19083.6	18618.2	18844.0	19012.9	18752.6	15992.9	11826.6	9323.7	8860.0	5419.5
72.5°	18183.8	18159.6	18513.0	20653.9	23910.1	23961.8	18713.0	11130.2	7203.5	5266.0	2889.0
73°	17068.5	17170.2	17825.2	20386.7	24328.9	24346.2	18766.4	10770.0	6614.0	4536.9	2537.4
75°	8842.8	9532.3	11962.8	16530.7	22527.6	22608.6	16542.8	8153.3	3942.2	2520.1	1710.0
77.5°	2368.4	2337.4	3854.3	8053.3	15019.0	14912.1	10452.8	3947.4	1889.2	1580.7	1199.7
80°	811.9	822.2	1311.8	2945.9	7010.5	7260.4	4536.9	1722.0	1242.8	1101.5	849.8
82.5°	413.7	427.5	686.1	1253.2	2932.1	2870.0	1460.0	1013.6	832.6	668.8	475.8
85°	220.6	227.5	377.5	649.9	1075.6	1087.7	513.7	541.3	529.2	379.2	234.4
87.5°	108.6	112.0	181.0	286.1	398.2	384.4	179.3	234.4	260.3	213.7	129.3
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°	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4	4109.4
2.5°	4081.8	4081.8	4104.2	4142.2	4169.7	4195.6	4212.8	4240.4	4255.9	4254.2	4252.5
5°	4054.2	4071.5	4116.3	4162.8	4193.9	4214.6	4214.6	4226.6	4226.6	4221.4	4214.6
7.5°	3990.5	4019.8	4085.3	4126.6	4135.3	4112.9	4068.0	4033.6	3990.5	3968.1	3959.4
10°	3888.8	3926.7	4009.4	4028.4	3983.6	3904.3	3795.7	3702.6	3619.9	3581.9	3569.9
12.5°	3788.8	3838.8	3916.3	3887.0	3780.2	3625.0	3457.8	3330.3	3237.2	3201.0	3188.9
15°	3706.0	3766.4	3826.7	3735.4	3549.2	3333.7	3149.3	3030.3	2959.7	2932.1	2925.2
17.5°	3650.9	3721.6	3742.2	3571.6	3313.0	3071.7	2908.0	2830.4	2799.4	2787.3	2783.8
20°	3654.3	3733.6	3683.6	3413.0	3085.5	2842.5	2733.9	2711.4	2711.4	2711.4	2709.7
22.5°	3749.1	3818.1	3659.5	3264.8	2866.6	2649.4	2602.9	2621.8	2635.6	2635.6	2633.9
25°	3945.7	3983.6	3676.7	3121.7	2661.5	2482.2	2483.9	2520.1	2532.2	2532.2	2528.7
27.5°	4245.6	4214.6	3707.8	2963.1	2459.8	2330.5	2354.6	2387.4	2396.0	2390.8	2389.1
30°	4621.4	4497.2	3733.6	2777.0	2270.2	2189.2	2209.8	2228.8	2221.9	2209.8	2208.1
32.5°	5042.0	4785.1	3718.1	2568.4	2103.0	2042.6	2054.7	2065.0	2054.7	2025.4	2025.4
35°	5459.1	5045.4	3633.7	2340.8	1970.2	1901.3	1899.6	1932.3	1930.6	1896.1	1897.8
37.5°	5824.5	5250.5	3469.9	2132.3	1856.5	1797.9	1804.8	1825.4	1835.8	1789.2	1784.1
40°	6143.4	5391.9	3238.9	1954.7	1765.1	1768.6	1749.6	1716.8	1704.8	1684.1	1680.7
42.5°	6443.4	5490.1	2994.1	1806.5	1718.6	1758.2	1694.4	1616.9	1584.1	1603.1	1615.1
45°	6738.1	5600.4	2758.0	1684.1	1660.0	1727.2	1639.3	1553.1	1515.2	1523.8	1535.9
47.5°	7098.4	5753.9	2473.6	1553.1	1570.3	1670.3	1604.8	1511.7	1454.8	1420.4	1410.0
50°	7572.4	5976.2	2104.7	1411.7	1475.5	1608.3	1575.5	1451.4	1389.3	1320.4	1303.2
52.5°	8165.4	6186.5	1732.4	1298.0	1398.0	1554.8	1527.2	1399.7	1323.8	1241.1	1227.3
55°	8756.6	6215.8	1411.7	1199.7	1310.0	1482.4	1468.6	1358.3	1251.4	1184.2	1170.4
57.5°	9170.3	5938.3	1196.3	1117.0	1225.6	1392.8	1415.2	1308.3	1191.1	1139.4	1130.8
60°	9177.2	5274.7	1065.3	1061.8	1161.8	1315.2	1360.0	1249.7	1153.2	1118.7	1111.8
62.5°	8448.1	4250.8	980.8	1020.5	1115.3	1251.4	1318.7	1217.0	1144.6	1130.8	1123.9
65°	7081.1	3140.7	913.6	982.5	1072.2	1198.0	1284.2	1206.6	1141.1	1135.9	1130.8
67.5°	5228.1	2153.0	856.7	934.3	1023.9	1142.8	1251.4	1191.1	1120.4	1141.1	1134.2
70°	3288.9	1437.6	803.3	879.1	960.1	1079.1	1208.3	1163.5	1094.6	1082.5	1060.1
72.5°	1856.5	1039.4	739.5	808.4	877.4	994.6	1149.7	1117.0	1036.0	987.7	965.3
73°	1677.2	984.3	724.0	791.2	858.4	977.4	1135.9	1103.2	1018.7	965.3	944.6
75°	1227.3	805.0	653.3	720.5	779.1	898.1	1070.4	1034.2	942.9	879.1	865.3
77.5°	889.5	620.5	561.9	622.3	674.0	787.8	972.2	930.8	841.2	806.7	792.9
80°	641.2	470.6	465.4	524.0	568.8	684.3	867.0	823.9	737.8	839.5	817.1
82.5°	382.7	301.7	341.3	406.8	453.3	574.0	753.3	703.3	620.5	627.4	534.4
85°	182.7	170.7	212.0	267.2	299.9	393.0	627.4	587.8	496.4	406.8	398.2
87.5°	81.0	77.6	101.7	118.9	160.3	236.2	429.2	380.9	360.3	215.5	168.9
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)