

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: P196847

Luminaire Tested: **NAV-AF-05-D-UNV-T4FT-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196847
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-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 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: 32155 lumens
Efficiency: N/A
Efficacy: 100.5 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 - G5

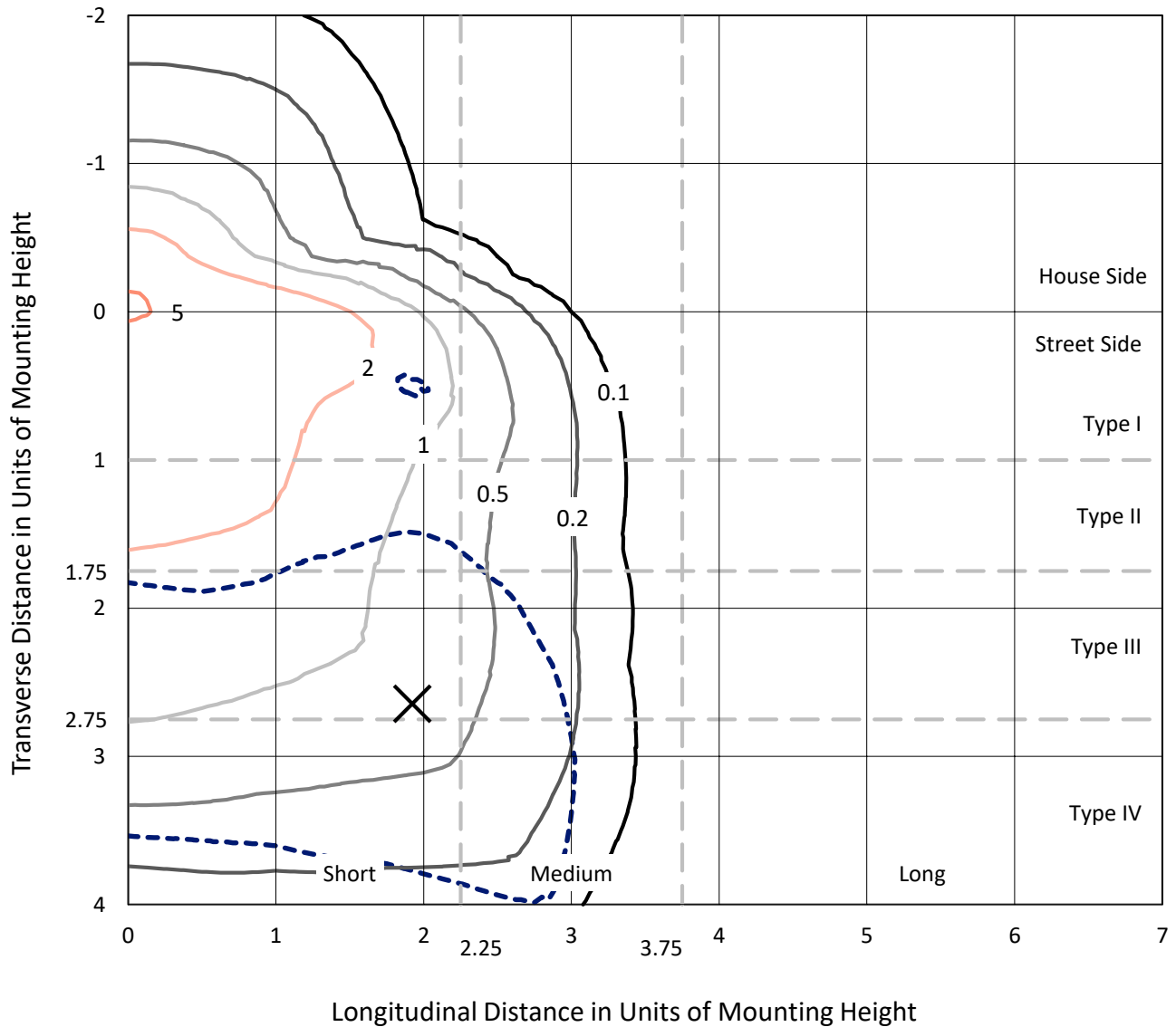
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

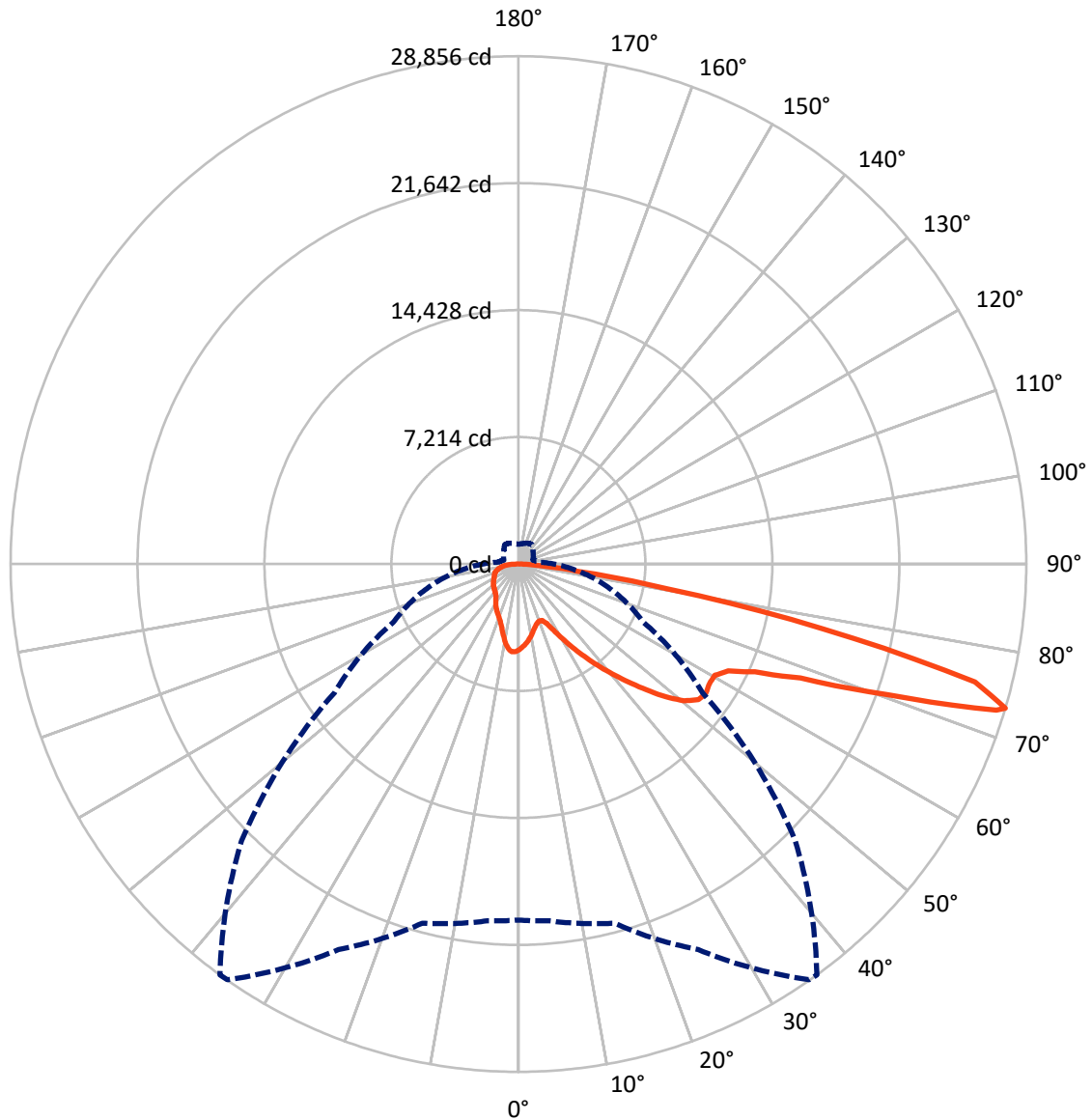
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.4 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	6200.4	0.0	6200.4
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	25954.5	0.0	25954.5
	% Fixture	80.7	0.0	80.7
Total	Lumens	32155.0	0.0	32155.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	442.4	1.4
10°-20°	1111.1	3.5
20°-30°	1781.3	5.5
30°-40°	2946.5	9.2
40°-50°	4559.3	14.2
50°-60°	6103.6	19.0
60°-70°	7973.2	24.8
70°-80°	6512.7	20.3
80°-90°	724.9	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°	32155.0	100.0
0°-180°	32155.0	100.0



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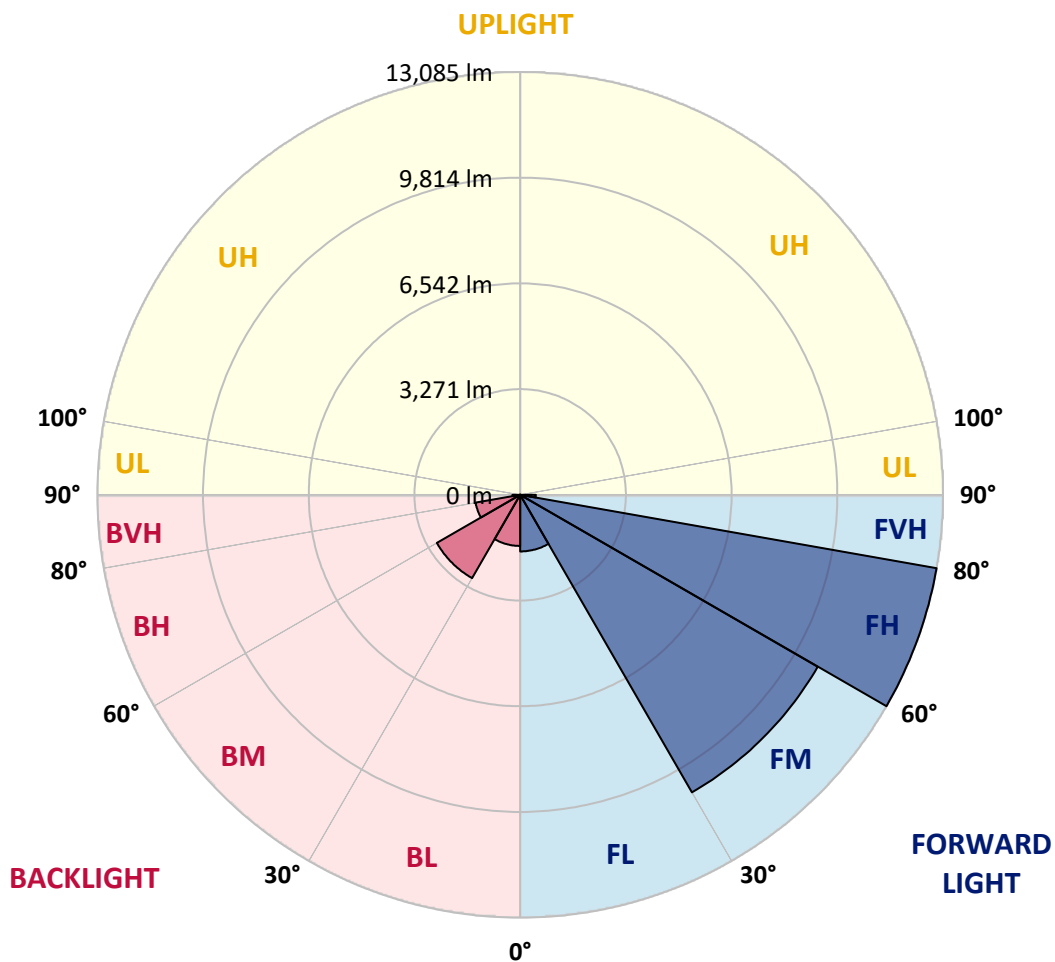
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1752.1	5.4			
FM	(30°-60°)	10631.6	33.1			
FH	(60°-80°)	13084.7	40.7			G5
FVH	(80°-90°)	486.2	1.5			G3/500
BL	(0°-30°)	1582.7	4.9	B3/2500		
BM	(30°-60°)	2977.8	9.3	B3/5000		
BH	(60°-80°)	1401.2	4.4	B3/2500		G3/2500
BVH	(80°-90°)	238.7	0.7			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6
2.5°	4684.6	4696.8	4698.9	4713.2	4713.2	4711.2	4717.3	4741.9	4754.1	4782.8	4807.2
5°	4453.7	4468.0	4474.1	4498.8	4529.4	4531.4	4553.9	4600.9	4645.8	4709.2	4762.3
7.5°	4194.4	4210.7	4227.0	4278.0	4323.1	4327.1	4370.1	4445.6	4504.9	4582.5	4678.5
10°	3943.0	3947.1	3963.5	4028.8	4088.1	4094.2	4155.4	4241.3	4320.9	4429.3	4537.5
12.5°	3736.6	3748.9	3744.9	3793.9	3845.0	3849.1	3930.7	4039.0	4155.4	4278.0	4406.8
15°	3665.2	3663.1	3620.2	3618.2	3640.6	3644.8	3724.4	3851.1	3981.9	4133.1	4298.5
17.5°	3714.2	3697.9	3585.5	3516.1	3501.8	3505.8	3565.0	3704.0	3842.8	4016.6	4214.7
20°	3983.9	3920.6	3657.0	3489.5	3442.4	3442.4	3477.1	3589.6	3742.7	3945.1	4194.4
22.5°	4623.3	4525.3	3963.5	3665.2	3499.7	3483.3	3456.8	3542.6	3712.2	3955.3	4278.0
25°	5428.3	5381.3	4525.3	4133.1	3791.9	3738.8	3563.1	3593.6	3775.5	4065.6	4507.0
27.5°	6174.0	6092.3	5262.8	4813.3	4331.1	4249.4	3877.6	3753.0	3926.7	4269.9	4837.9
30°	6609.2	6554.0	6020.7	5591.8	5017.6	4913.5	4380.2	4067.6	4196.3	4607.0	5307.7
32.5°	7083.2	7050.4	6780.7	6390.6	5761.3	5640.7	5029.9	4580.4	4609.0	5054.5	5873.7
35°	7542.8	7585.8	7432.5	7146.4	6562.1	6449.8	5902.3	5250.6	5117.7	5557.0	6478.4
37.5°	8094.5	8104.7	8008.6	7822.8	7403.9	7311.9	6860.5	5965.5	5671.4	6092.3	7062.7
40°	9195.6	9034.2	8658.2	8511.2	8261.9	8204.8	7689.8	6621.4	6186.3	6641.9	7614.3
42.5°	10386.7	10135.4	9547.0	9305.9	9205.8	9152.7	8380.4	7058.5	6668.4	7191.5	8155.7
45°	11346.9	11142.6	10566.5	10268.1	10280.4	10194.7	8983.2	7448.9	7191.5	7742.9	8760.4
47.5°	12292.9	11951.7	11306.0	11263.1	11406.1	11279.5	9559.3	7839.1	7736.8	8343.7	9365.1
50°	12354.2	12043.5	11782.1	12125.3	12370.5	12213.1	10082.2	8349.8	8302.8	9071.0	10145.6
52.5°	11608.4	11563.5	11961.8	12540.0	12946.5	12805.6	10509.3	8874.8	8881.0	9980.2	11095.6
55°	11336.7	11279.5	11757.5	12468.5	13018.1	12934.3	10828.0	9467.4	9522.5	11083.4	12115.1
57.5°	11794.3	11651.3	11745.3	12333.7	12850.5	12801.6	11158.9	10125.2	10225.2	12354.2	13056.9
60°	13214.3	12922.1	12423.6	12533.9	12856.6	12828.1	11633.0	10858.6	11026.1	13677.9	13653.5
62.5°	15341.0	15010.0	13994.7	13504.3	13432.8	13377.7	12415.3	11759.6	11843.3	14634.0	13306.1
65°	17674.1	17318.6	16111.3	15308.4	14887.4	14768.9	13677.9	12846.4	12321.3	14632.1	11953.7
67.5°	20293.3	19917.3	18714.0	17947.9	17492.3	17290.1	15727.1	13724.9	12166.1	13394.0	9565.4
70°	22975.7	22618.2	22066.6	22334.2	22534.5	22225.9	18955.1	14017.1	11050.7	10501.1	6423.3
72.5°	21551.7	21523.2	21942.0	24479.4	28338.7	28400.0	22179.0	13191.8	8537.7	6241.4	3424.0
73°	20229.9	20350.5	21126.8	24162.6	28835.1	28855.6	22242.4	12764.8	7839.1	5377.2	3007.4
75°	10480.7	11297.9	14178.6	19592.5	26700.1	26796.2	19606.8	9663.4	4672.4	2986.9	2026.6
77.5°	2807.1	2770.4	4568.1	9545.0	17800.7	17674.1	12388.8	4678.5	2239.2	1873.5	1421.9
80°	962.2	974.5	1554.8	3491.5	8308.9	8605.1	5377.2	2041.0	1473.1	1305.5	1007.2
82.5°	490.3	506.6	813.1	1485.3	3475.2	3401.6	1730.4	1201.3	986.8	792.6	563.9
85°	261.4	269.7	447.4	770.2	1274.8	1289.1	608.8	641.5	627.2	449.5	277.8
87.5°	128.7	132.8	214.4	339.1	471.9	455.6	212.5	277.8	308.5	253.4	153.2
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°	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6	4870.6
2.5°	4837.9	4837.9	4864.4	4909.3	4942.1	4972.7	4993.1	5025.8	5044.2	5042.2	5040.1
5°	4805.2	4825.7	4878.8	4933.9	4970.6	4995.3	4995.3	5009.4	5009.4	5003.3	4995.3
7.5°	4729.7	4764.4	4842.0	4891.0	4901.2	4874.6	4821.5	4780.6	4729.7	4703.1	4692.8
10°	4609.0	4654.0	4752.0	4774.5	4721.4	4627.4	4498.8	4388.4	4290.3	4245.4	4231.1
12.5°	4490.5	4549.8	4641.8	4607.0	4480.2	4296.5	4098.4	3947.1	3836.7	3793.9	3779.6
15°	4392.4	4464.0	4535.5	4427.1	4206.6	3951.2	3732.7	3591.6	3507.9	3475.2	3467.1
17.5°	4327.1	4410.9	4435.4	4233.1	3926.7	3640.6	3446.6	3354.6	3317.8	3303.6	3299.5
20°	4331.1	4425.2	4365.9	4045.3	3657.0	3368.9	3240.2	3213.7	3213.7	3213.7	3211.5
22.5°	4443.6	4525.3	4337.4	3869.4	3397.5	3140.1	3084.9	3107.5	3123.7	3123.7	3121.7
25°	4676.6	4721.4	4357.7	3699.8	3154.5	2942.0	2944.0	2986.9	3001.3	3001.3	2997.1
27.5°	5031.9	4995.3	4394.5	3511.9	2915.4	2762.2	2790.8	2829.6	2839.7	2833.6	2831.7
30°	5477.2	5330.2	4425.2	3291.3	2690.6	2594.6	2619.2	2641.7	2633.4	2619.2	2617.1
32.5°	5975.8	5671.4	4406.8	3044.1	2492.5	2420.9	2435.3	2447.5	2435.3	2400.5	2400.5
35°	6470.3	5979.9	4306.7	2774.4	2335.2	2253.5	2251.4	2290.2	2288.2	2247.4	2249.3
37.5°	6903.3	6223.0	4112.6	2527.1	2200.4	2130.9	2139.1	2163.6	2175.8	2120.6	2114.5
40°	7281.2	6390.6	3838.9	2316.8	2092.1	2096.1	2073.6	2034.9	2020.5	1996.0	1991.9
42.5°	7636.7	6507.1	3548.7	2141.1	2036.9	2083.9	2008.3	1916.3	1877.5	1900.0	1914.3
45°	7986.2	6637.7	3268.8	1996.0	1967.4	2047.1	1942.9	1840.8	1795.7	1806.0	1820.4
47.5°	8413.2	6819.6	2931.8	1840.8	1861.2	1979.7	1902.1	1791.8	1724.3	1683.4	1671.2
50°	8975.0	7083.2	2494.5	1673.2	1748.8	1906.1	1867.4	1720.2	1646.6	1564.9	1544.5
52.5°	9677.7	7332.4	2053.2	1538.4	1656.9	1842.7	1810.1	1658.9	1569.1	1470.9	1454.7
55°	10378.5	7367.2	1673.2	1421.9	1552.7	1757.0	1740.6	1609.9	1483.2	1403.6	1387.1
57.5°	10868.9	7038.2	1417.8	1323.9	1452.6	1650.8	1677.3	1550.6	1411.7	1350.5	1340.2
60°	10877.0	6251.6	1262.6	1258.4	1377.0	1558.8	1611.9	1481.2	1366.8	1326.0	1317.7
62.5°	10012.8	5038.1	1162.5	1209.5	1321.8	1483.2	1563.0	1442.3	1356.6	1340.2	1332.1
65°	8392.8	3722.4	1082.8	1164.4	1270.8	1420.0	1522.1	1430.1	1352.5	1346.3	1340.2
67.5°	6196.4	2551.8	1015.3	1107.4	1213.6	1354.5	1483.2	1411.7	1327.9	1352.5	1344.3
70°	3898.1	1703.9	952.0	1041.9	1137.9	1278.9	1432.2	1379.1	1297.4	1283.0	1256.5
72.5°	2200.4	1231.9	876.5	958.2	1039.9	1178.8	1362.7	1323.9	1227.8	1170.6	1144.1
73°	1987.9	1166.6	858.0	937.8	1017.4	1158.3	1346.3	1307.5	1207.5	1144.1	1119.6
75°	1454.7	954.1	774.3	854.0	923.5	1064.4	1268.7	1225.8	1117.5	1041.9	1025.6
77.5°	1054.3	735.6	666.1	737.5	798.8	933.6	1152.2	1103.2	997.0	956.1	939.7
80°	760.0	557.8	551.6	621.0	674.2	811.0	1027.6	976.6	874.4	995.0	968.4
82.5°	453.5	357.5	404.5	482.2	537.3	680.3	892.7	833.5	735.6	743.6	633.3
85°	216.6	202.2	251.3	316.7	355.5	465.8	743.6	696.6	588.4	482.2	471.9
87.5°	96.0	91.9	120.5	141.0	190.0	279.9	508.7	451.5	426.9	255.3	200.2
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)