

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: P195402

Luminaire Tested: **NAV-AF-06-D-UNV-T4FT-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195402
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-06-D-UNV-T4FT-7060
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5700K, 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: 36307 lumens
Efficiency: N/A
Efficacy: 109.0 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

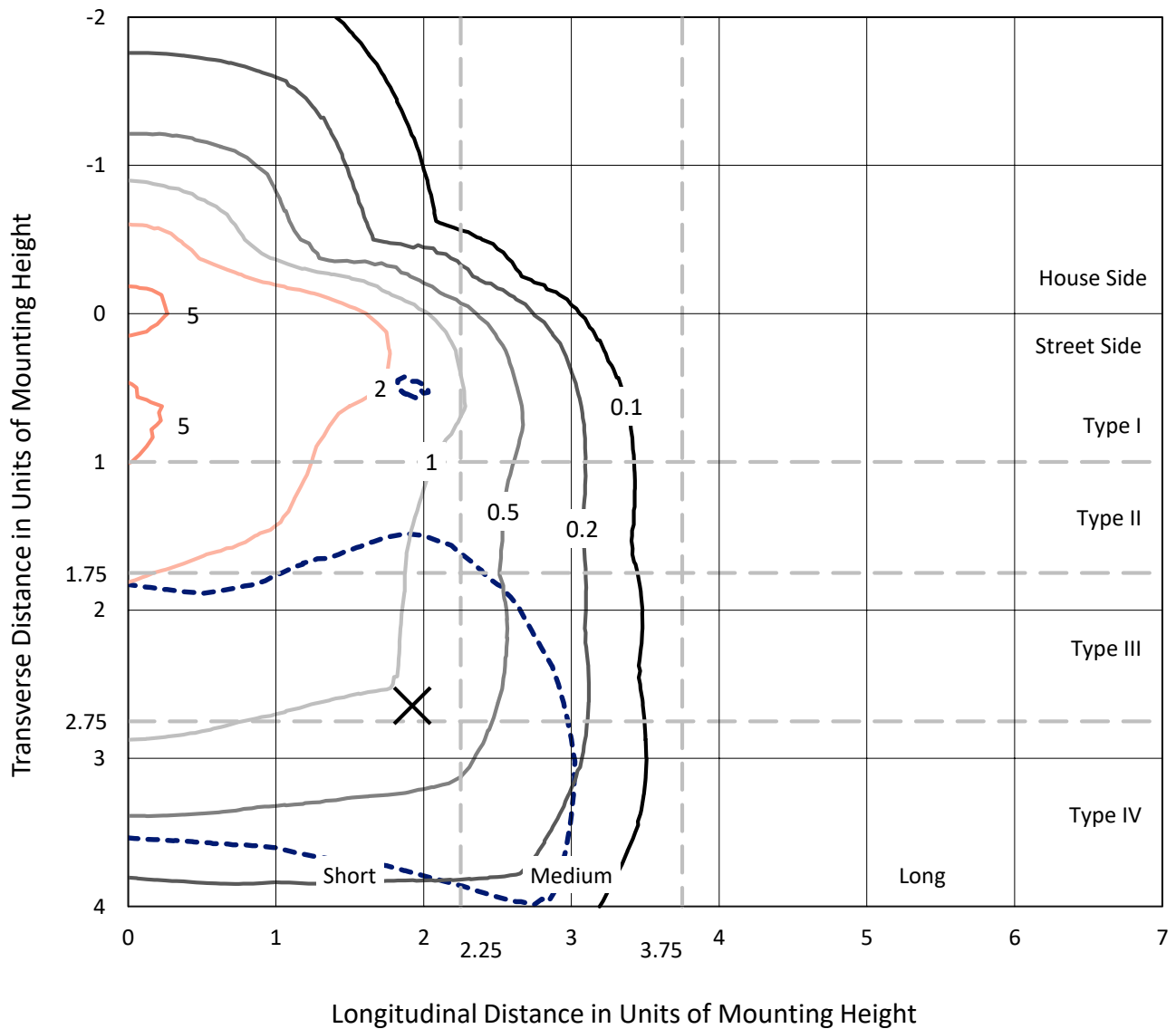
Input Watts (W): 333
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

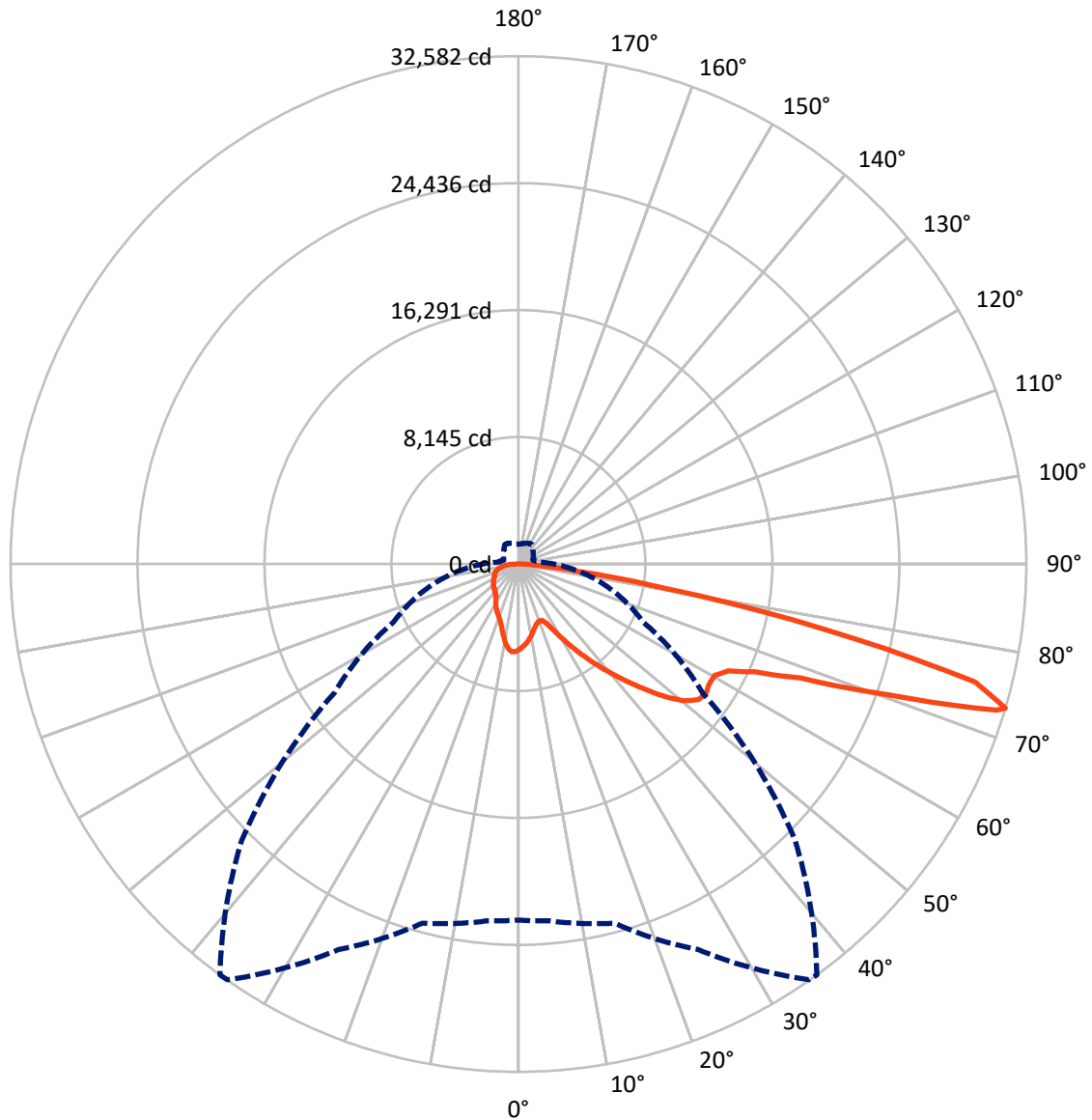
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 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	7001.1	0.0	7001.1
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	29305.9	0.0	29305.9
	% Fixture	80.7	0.0	80.7
Total	Lumens	36307.0	0.0	36307.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	499.5	1.4
10°-20°	1254.5	3.5
20°-30°	2011.4	5.5
30°-40°	3326.9	9.2
40°-50°	5148.1	14.2
50°-60°	6891.7	19.0
60°-70°	9002.7	24.8
70°-80°	7353.7	20.3
80°-90°	818.5	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°	36307.0	100.0
0°-180°	36307.0	100.0

Coefficient of Utilization



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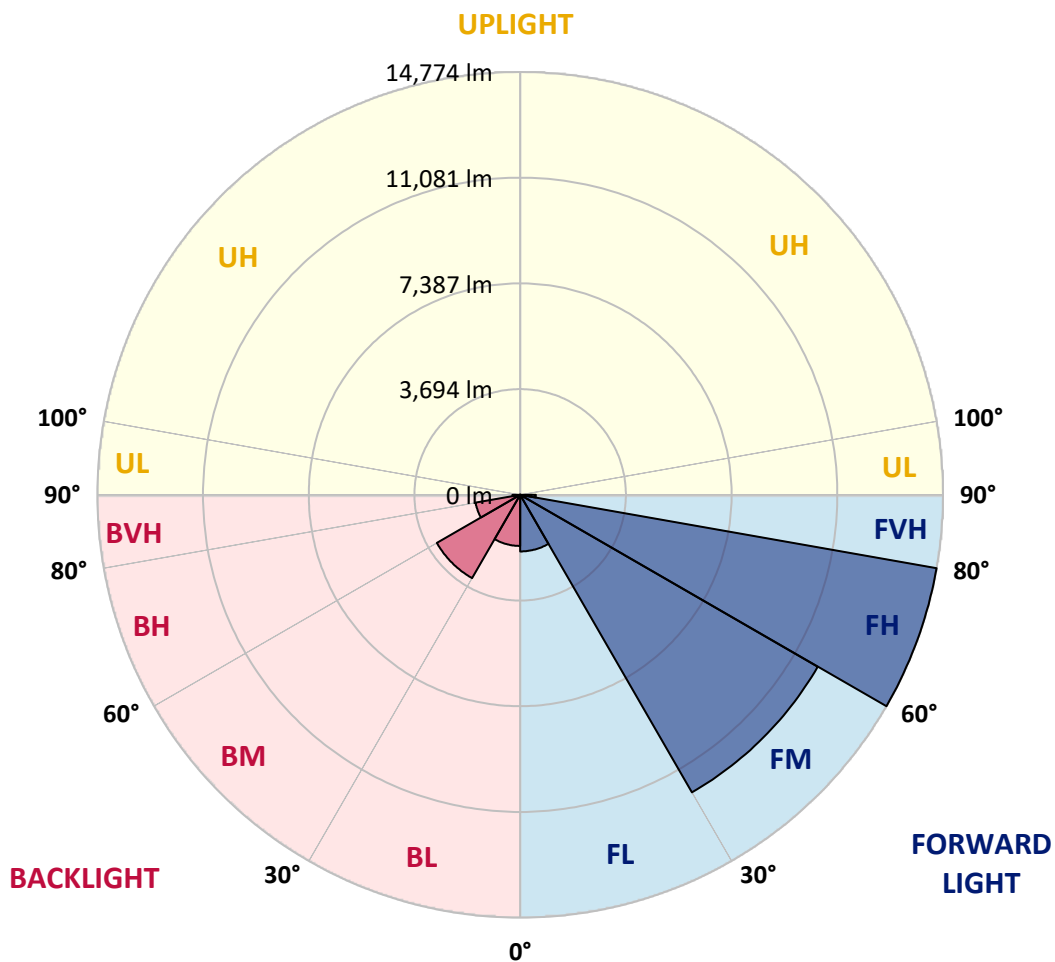
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1978.3	5.4			
FM	(30°-60°)	12004.4	33.1			
FH	(60°-80°)	14774.3	40.7			G5
FVH	(80°-90°)	548.9	1.5			G4/750
BL	(0°-30°)	1787.1	4.9	B3/2500		
BM	(30°-60°)	3362.3	9.3	B3/5000		
BH	(60°-80°)	1582.1	4.4	B3/2500		G3/2500
BVH	(80°-90°)	269.6	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°	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5
2.5°	5289.5	5303.4	5305.7	5321.8	5321.8	5319.5	5326.4	5354.1	5368.0	5400.3	5427.9
5°	5028.9	5045.0	5051.9	5079.6	5114.2	5116.5	5141.9	5195.0	5245.7	5317.2	5377.2
7.5°	4735.9	4754.4	4772.8	4830.5	4881.2	4885.8	4934.3	5019.6	5086.5	5174.2	5282.6
10°	4452.2	4456.8	4475.2	4549.0	4615.9	4622.9	4692.1	4789.0	4878.9	5001.2	5123.4
12.5°	4219.2	4233.0	4228.4	4283.8	4341.4	4346.0	4438.3	4560.6	4692.1	4830.5	4975.8
15°	4138.4	4136.1	4087.7	4085.4	4110.8	4115.4	4205.3	4348.4	4496.0	4666.7	4853.5
17.5°	4193.8	4175.3	4048.5	3970.0	3953.9	3958.5	4025.4	4182.3	4339.1	4535.2	4759.0
20°	4498.3	4426.8	4129.2	3940.0	3887.0	3887.0	3926.2	4053.1	4226.1	4454.5	4735.9
22.5°	5220.3	5109.6	4475.2	4138.4	3951.6	3933.1	3903.1	4000.0	4191.5	4466.0	4830.5
25°	6129.2	6076.2	5109.6	4666.7	4281.5	4221.5	4023.1	4057.7	4263.0	4590.6	5088.8
27.5°	6971.2	6878.9	5942.4	5434.9	4890.5	4798.2	4378.3	4237.6	4433.7	4821.3	5462.5
30°	7462.6	7400.3	6798.2	6313.8	5665.5	5547.9	4945.8	4592.9	4738.2	5201.9	5993.1
32.5°	7997.7	7960.8	7656.3	7215.7	6505.2	6369.1	5679.4	5171.9	5204.2	5707.1	6632.1
35°	8516.8	8565.2	8392.2	8069.3	7409.5	7282.6	6664.4	5928.5	5778.6	6274.5	7314.9
37.5°	9139.6	9151.1	9042.7	8832.8	8359.9	8256.1	7746.3	6735.9	6403.7	6878.9	7974.7
40°	10383.0	10200.8	9776.3	9610.2	9328.8	9264.2	8682.9	7476.4	6985.0	7499.5	8597.5
42.5°	11727.9	11444.1	10779.8	10507.6	10394.5	10334.5	9462.6	7970.1	7529.5	8120.0	9208.8
45°	12812.1	12581.4	11930.9	11594.1	11607.9	11511.0	10143.1	8410.7	8120.0	8742.8	9891.6
47.5°	13880.1	13494.9	12765.9	12717.5	12879.0	12735.9	10793.6	8851.3	8735.9	9421.0	10574.5
50°	13949.3	13598.7	13303.4	13691.0	13967.8	13790.2	11384.1	9428.0	9374.9	10242.3	11455.7
52.5°	13107.3	13056.6	13506.4	14159.3	14618.3	14459.1	11866.3	10020.8	10027.7	11268.8	12528.3
55°	12800.5	12735.9	13275.7	14078.5	14699.0	14604.5	12226.1	10689.8	10752.1	12514.5	13679.4
57.5°	13317.3	13155.8	13261.9	13926.3	14509.9	14454.5	12599.8	11432.6	11545.6	13949.3	14742.9
60°	14920.5	14590.6	14027.8	14152.3	14516.8	14484.5	13135.0	12260.7	12449.9	15444.1	15416.5
62.5°	17321.9	16948.2	15801.7	15248.1	15167.3	15105.0	14018.5	13278.0	13372.6	16523.7	15024.3
65°	19956.3	19554.9	18191.6	17285.0	16809.8	16676.0	15444.1	14505.3	13912.4	16521.4	13497.2
67.5°	22913.6	22489.2	21130.5	20265.4	19751.0	19522.6	17757.9	15497.2	13737.1	15123.5	10800.5
70°	25942.5	25538.8	24915.9	25218.1	25444.2	25095.9	21402.7	15827.1	12477.6	11857.0	7252.6
72.5°	24334.6	24302.3	24775.2	27640.3	31997.9	32067.1	25042.8	14895.1	9640.2	7047.3	3866.2
73°	22842.1	22978.2	23854.8	27282.7	32558.4	32581.5	25114.3	14413.0	8851.3	6071.5	3395.6
75°	11834.0	12756.7	16009.3	22122.4	30147.8	30256.2	22138.5	10911.3	5275.7	3372.6	2288.4
77.5°	3169.6	3128.0	5158.0	10777.5	20099.3	19956.3	13988.5	5282.6	2528.3	2115.4	1605.5
80°	1086.5	1100.4	1755.5	3942.4	9381.8	9716.3	6071.5	2304.5	1663.2	1474.1	1137.3
82.5°	553.6	572.1	918.1	1677.1	3923.9	3840.9	1953.9	1356.4	1114.2	895.0	636.7
85°	295.3	304.5	505.2	869.7	1439.5	1455.6	687.4	724.3	708.2	507.5	313.7
87.5°	145.3	149.9	242.2	382.9	532.9	514.4	239.9	313.7	348.3	286.0	173.0
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°	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5	5499.5
2.5°	5462.5	5462.5	5492.5	5543.3	5580.2	5614.8	5637.9	5674.8	5695.5	5693.2	5690.9
5°	5425.6	5448.7	5508.7	5571.0	5612.5	5640.2	5640.2	5656.3	5656.3	5649.4	5640.2
7.5°	5340.3	5379.5	5467.2	5522.5	5534.1	5504.1	5444.1	5398.0	5340.3	5310.3	5298.8
10°	5204.2	5254.9	5365.7	5391.0	5331.1	5224.9	5079.6	4955.0	4844.3	4793.6	4777.4
12.5°	5070.4	5137.3	5241.1	5201.9	5058.9	4851.2	4627.5	4456.8	4332.2	4283.8	4267.6
15°	4959.7	5040.4	5121.1	4998.9	4749.7	4461.4	4214.6	4055.4	3960.8	3923.9	3914.7
17.5°	4885.8	4980.4	5008.1	4779.7	4433.7	4110.8	3891.6	3787.8	3746.3	3730.1	3725.5
20°	4890.5	4996.6	4929.7	4567.5	4129.2	3803.9	3658.6	3628.6	3628.6	3628.6	3626.3
22.5°	5017.3	5109.6	4897.4	4369.1	3836.2	3545.6	3483.3	3508.7	3527.1	3527.1	3524.8
25°	5280.3	5331.1	4920.4	4177.6	3561.7	3321.8	3324.1	3372.6	3388.7	3388.7	3384.1
27.5°	5681.7	5640.2	4962.0	3965.4	3291.8	3118.8	3151.1	3194.9	3206.5	3199.6	3197.3
30°	6184.6	6018.5	4996.6	3716.3	3038.1	2929.7	2957.3	2982.7	2973.5	2957.3	2955.0
32.5°	6747.4	6403.7	4975.8	3437.2	2814.3	2733.6	2749.7	2763.6	2749.7	2710.5	2710.5
35°	7305.7	6752.1	4862.8	3132.7	2636.7	2544.4	2542.1	2585.9	2583.6	2537.5	2539.8
37.5°	7794.7	7026.6	4643.6	2853.5	2484.4	2406.0	2415.2	2442.9	2456.8	2394.5	2387.6
40°	8221.5	7215.7	4334.5	2615.9	2362.2	2366.8	2341.4	2297.6	2281.4	2253.8	2249.1
42.5°	8622.9	7347.2	4006.9	2417.5	2299.9	2353.0	2267.6	2163.8	2120.0	2145.3	2161.5
45°	9017.4	7494.9	3690.9	2253.8	2221.5	2311.4	2193.8	2078.4	2027.7	2039.2	2055.4
47.5°	9499.5	7700.2	3310.3	2078.4	2101.5	2235.3	2147.6	2023.1	1947.0	1900.8	1887.0
50°	10133.9	7997.7	2816.6	1889.3	1974.6	2152.3	2108.4	1942.3	1859.3	1767.0	1744.0
52.5°	10927.4	8279.2	2318.4	1737.0	1870.8	2080.8	2043.8	1873.1	1771.6	1660.9	1642.5
55°	11718.6	8318.4	1889.3	1605.5	1753.2	1983.9	1965.4	1817.8	1674.8	1584.8	1566.3
57.5°	12272.3	7947.0	1600.9	1494.8	1640.1	1863.9	1893.9	1750.9	1594.0	1524.8	1513.3
60°	12281.5	7058.9	1425.6	1421.0	1554.8	1760.1	1820.1	1672.4	1543.3	1497.1	1487.9
62.5°	11305.7	5688.6	1312.6	1365.6	1492.5	1674.8	1764.7	1628.6	1531.7	1513.3	1504.0
65°	9476.4	4203.0	1222.6	1314.9	1434.8	1603.2	1718.6	1614.8	1527.1	1520.2	1513.3
67.5°	6996.6	2881.2	1146.5	1250.3	1370.3	1529.4	1674.8	1594.0	1499.4	1527.1	1517.9
70°	4401.4	1923.9	1075.0	1176.5	1284.9	1444.1	1617.1	1557.1	1464.8	1448.7	1418.7
72.5°	2484.4	1391.0	989.6	1081.9	1174.2	1331.0	1538.6	1494.8	1386.4	1321.8	1291.8
73°	2244.5	1317.2	968.9	1058.8	1148.8	1308.0	1520.2	1476.4	1363.3	1291.8	1264.1
75°	1642.5	1077.3	874.3	964.3	1042.7	1201.9	1432.5	1384.1	1261.8	1176.5	1158.0
77.5°	1190.3	830.5	752.0	832.8	902.0	1054.2	1301.0	1245.7	1125.7	1079.6	1061.1
80°	858.1	629.8	622.8	701.3	761.3	915.8	1160.3	1102.7	987.3	1123.4	1093.4
82.5°	512.1	403.7	456.8	544.4	606.7	768.2	1008.1	941.2	830.5	839.7	715.1
85°	244.5	228.4	283.7	357.6	401.4	526.0	839.7	786.6	664.4	544.4	532.9
87.5°	108.4	103.8	136.1	159.2	214.5	316.0	574.4	509.8	482.1	288.4	226.1
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)