

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: P197231

Luminaire Tested: **NAV-AF-05-D-UNV-T2-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197231
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
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-T2-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26346 lumens
Efficiency: N/A
Efficacy: 82.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G4

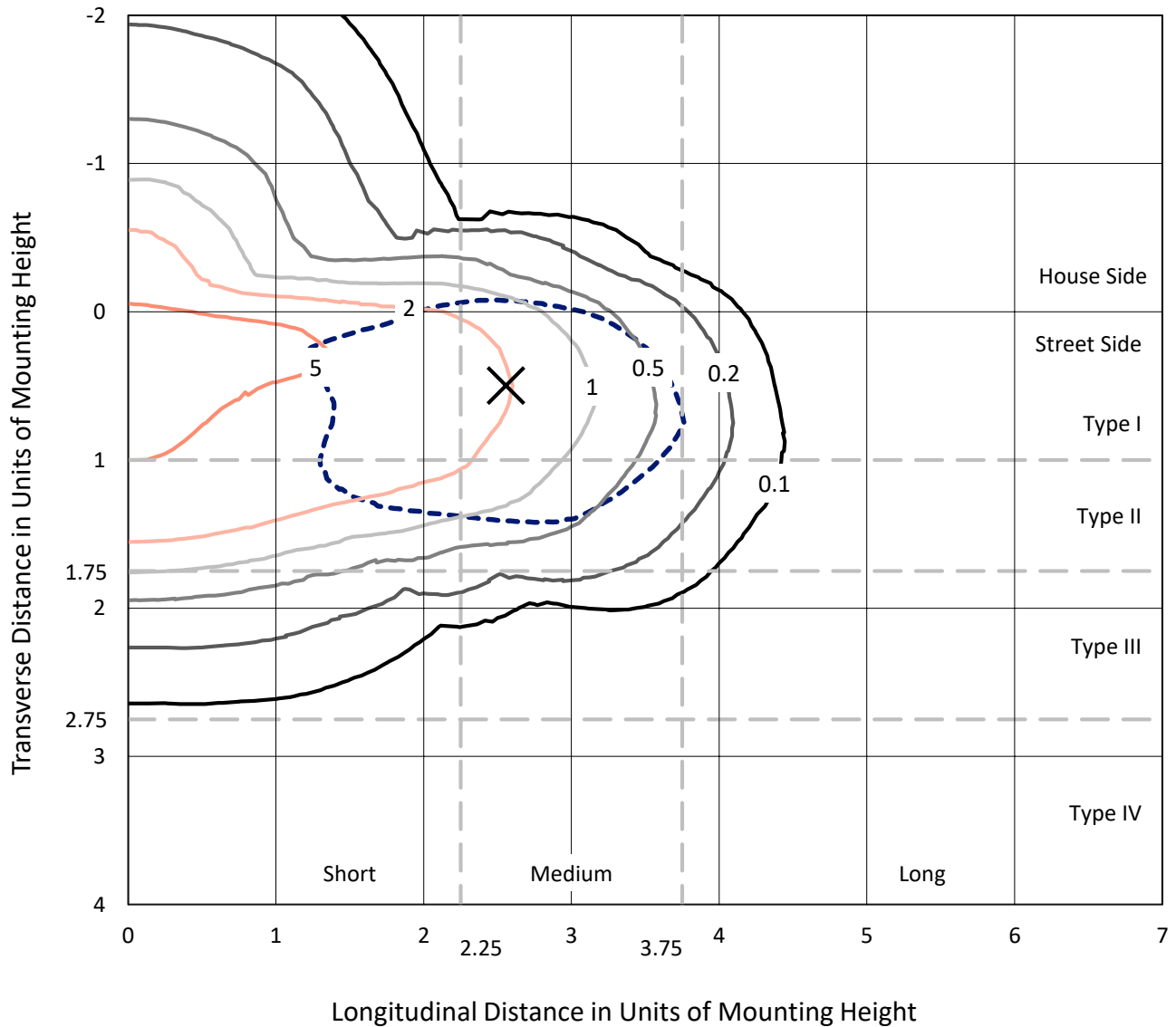
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

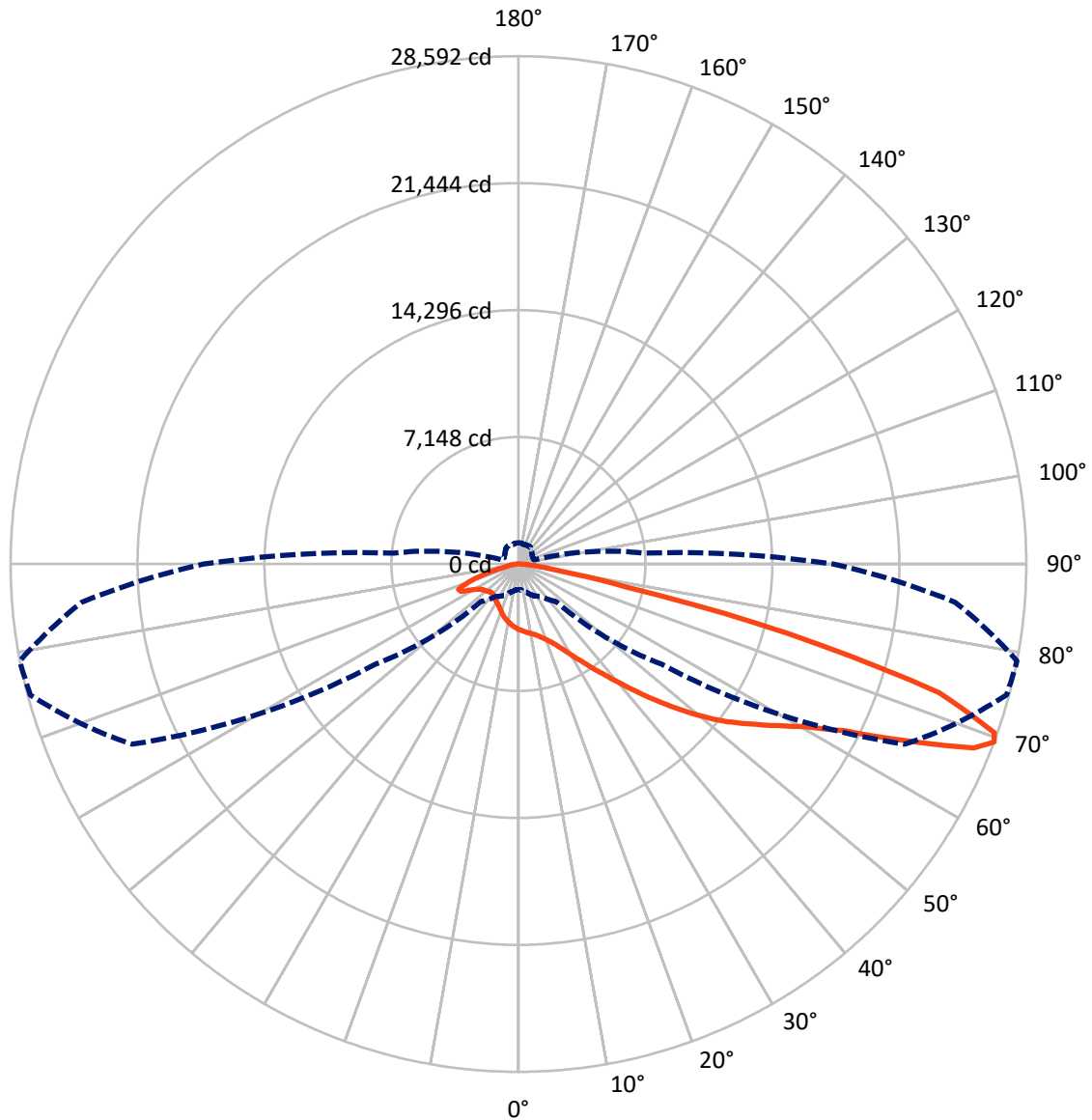
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.1 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4956.2	0.0	4956.2
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	21389.8	0.0	21389.8
	% Fixture	81.2	0.0	81.2
Total	Lumens	26346.0	0.0	26346.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	342.7	1.3
10°-20°	982.6	3.7
20°-30°	1623.7	6.2
30°-40°	2629.3	10.0
40°-50°	4200.2	15.9
50°-60°	6015.2	22.8
60°-70°	6701.8	25.4
70°-80°	3352.8	12.7
80°-90°	497.6	1.9
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°	26346.0	100.0
0°-180°	26346.0	100.0

Coefficient of Utilization



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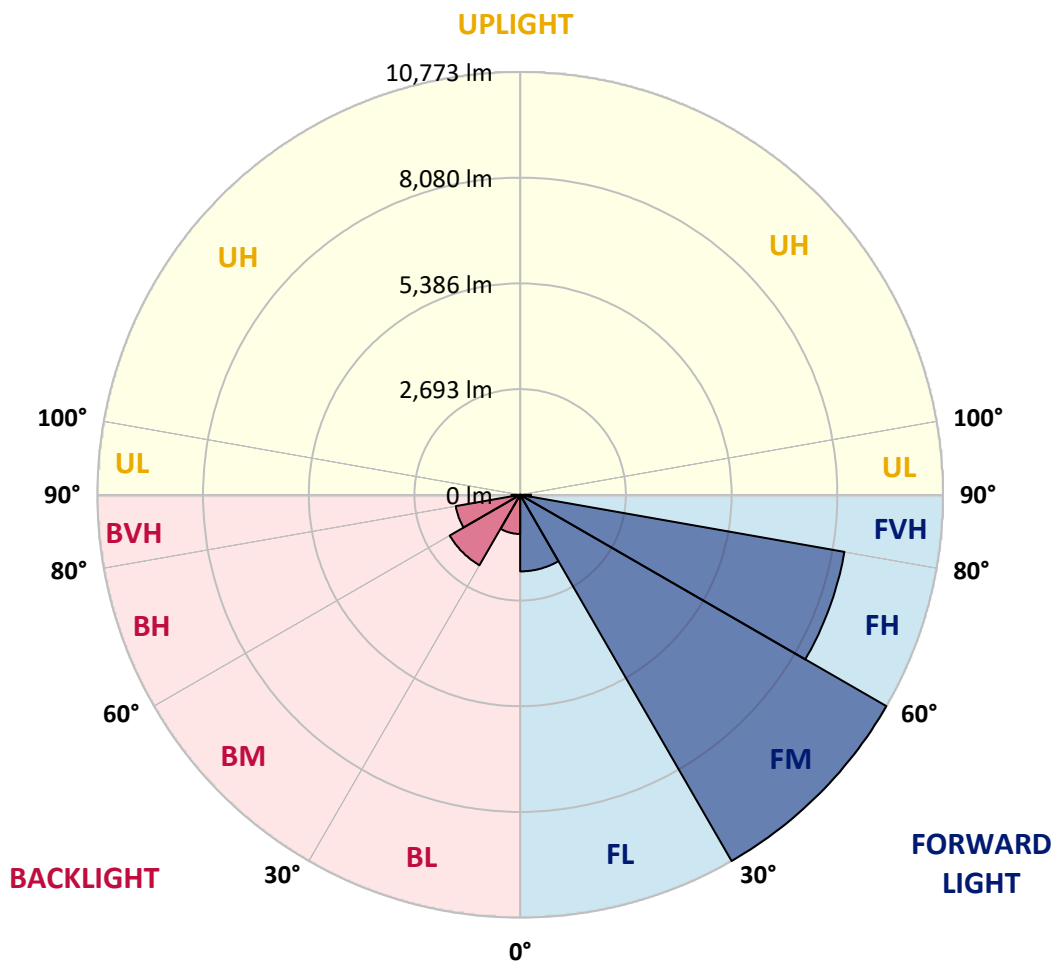
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1950.7	7.4			
FM	(30°-60°)	10772.9	40.9			
FH	(60°-80°)	8388.2	31.8			G4/12000
FVH	(80°-90°)	278.0	1.1			G3/500
BL	(0°-30°)	998.4	3.8	B2/1000		
BM	(30°-60°)	2071.8	7.9	B2/2500		
BH	(60°-80°)	1666.4	6.3	B3/2500		G3/2500
BVH	(80°-90°)	219.5	0.8			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2
2.5°	4059.1	4050.5	4048.8	4022.9	4009.2	3979.9	3910.9	3840.2	3774.7	3740.3	3704.1
5°	4398.7	4381.5	4372.8	4329.7	4291.8	4226.3	4117.7	4005.7	3888.5	3828.2	3755.8
7.5°	4603.8	4605.5	4605.5	4571.1	4533.1	4453.8	4316.0	4162.6	3988.5	3909.2	3795.4
10°	4621.0	4622.8	4648.6	4657.2	4665.9	4624.5	4496.9	4303.9	4079.8	3976.4	3828.2
12.5°	4450.4	4462.5	4505.6	4567.6	4655.5	4700.3	4645.2	4455.6	4197.0	4071.2	3890.2
15°	4221.2	4233.2	4288.4	4383.2	4524.5	4674.5	4752.0	4629.7	4350.4	4202.2	3981.6
17.5°	4109.1	4122.9	4160.8	4236.7	4374.6	4576.2	4808.9	4815.8	4531.4	4360.8	4090.2
20°	4055.7	4066.0	4114.3	4176.3	4281.5	4474.5	4814.1	5012.3	4746.9	4548.6	4222.9
22.5°	4178.1	4181.5	4205.6	4240.1	4310.8	4459.0	4810.6	5215.7	5015.7	4784.8	4393.5
25°	4536.6	4514.2	4496.9	4453.8	4471.1	4576.2	4865.8	5432.9	5360.5	5095.0	4621.0
27.5°	4960.6	4957.1	4912.3	4812.4	4748.6	4815.8	5022.6	5675.9	5782.8	5489.7	4919.2
30°	5432.9	5434.6	5388.1	5265.7	5136.4	5143.3	5272.6	5956.8	6287.8	5965.5	5286.4
32.5°	5927.5	5958.6	5872.4	5750.0	5593.2	5543.2	5631.1	6296.4	6872.1	6527.4	5712.1
35°	6518.8	6523.9	6429.1	6249.9	6093.0	6013.7	6094.7	6720.4	7546.0	7187.5	6230.9
37.5°	7132.4	7135.8	7037.6	6808.3	6610.1	6558.4	6648.0	7235.8	8259.6	7939.0	6841.1
40°	7633.9	7670.1	7592.6	7377.1	7177.2	7146.2	7275.4	7852.8	9171.4	8828.4	7566.7
42.5°	8202.7	8244.1	8151.0	7927.0	7768.4	7758.0	7959.7	8556.1	10078.0	9857.4	8388.9
45°	8843.9	8902.5	8773.3	8521.6	8387.2	8614.7	8626.7	9335.2	11122.6	11008.8	9314.5
47.5°	9543.7	9592.0	9486.8	9216.2	9069.7	9398.9	9280.0	10178.0	12251.5	12242.9	10315.9
50°	10083.2	10136.6	10147.0	10028.1	9874.6	9916.0	9997.0	11064.0	13377.1	13511.5	11351.8
52.5°	9985.0	10036.7	10269.4	10581.3	10827.8	10720.9	10819.2	12005.1	14464.7	14749.1	12336.0
55°	9192.1	9219.7	9655.7	10396.9	11446.6	11956.8	11963.7	13028.9	15498.8	15897.0	13270.2
57.5°	7763.2	7766.7	8333.7	9426.5	11086.4	12758.3	13770.0	14314.7	16577.8	17165.6	14428.5
60°	5493.2	5507.0	6167.1	7596.0	9795.4	12661.8	15712.6	16615.7	17827.5	18591.0	15921.1
62.5°	3261.1	3292.1	3790.3	4936.5	7275.4	11420.7	16860.5	20709.4	19668.3	20681.8	18310.1
65°	2121.8	2147.6	2445.8	3021.5	4298.7	8309.6	16483.0	24673.7	23151.7	23970.5	21743.5
67.5°	1634.0	1654.7	1889.1	2237.3	2637.1	4491.8	13178.8	25504.5	27391.9	27647.0	24640.9
69°	1435.8	1453.0	1625.4	1959.8	2220.0	2973.3	9821.2	23996.3	28451.9	28591.5	24677.1
70°	1330.6	1344.4	1506.4	1796.0	2039.0	2373.4	7516.7	22245.1	28064.1	28420.9	23965.3
72.5°	1096.2	1108.3	1223.8	1446.1	1666.7	1690.9	3330.0	16243.4	23630.9	24771.9	20280.2
75°	915.2	922.1	998.0	1160.0	1349.6	1346.2	1701.2	9200.7	14419.8	15779.8	12522.1
77.5°	763.6	768.7	818.7	918.7	1065.2	1060.0	1197.9	3971.2	6367.1	6143.0	4310.8
80°	673.9	677.4	703.2	729.1	822.2	817.0	887.7	1823.6	2590.6	2394.1	1630.5
82.5°	511.9	518.8	649.8	661.9	637.7	615.3	618.8	1061.8	1327.2	1208.3	875.6
85°	289.6	291.3	417.1	487.8	555.0	417.1	401.6	548.1	655.0	574.0	382.6
87.5°	129.3	134.4	199.9	231.0	299.9	244.8	229.2	232.7	282.7	234.4	151.7
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°	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2	3697.2
2.5°	3669.6	3640.3	3571.4	3500.7	3430.0	3385.2	3338.7	3295.6	3278.3	3276.6	3243.9
5°	3685.1	3616.2	3459.3	3287.0	3123.2	2995.7	2888.8	2819.9	2752.6	2740.6	2711.3
7.5°	3690.3	3578.2	3323.1	3047.4	2797.4	2621.6	2514.8	2468.2	2435.5	2426.9	2416.5
10°	3688.6	3530.0	3171.5	2794.0	2509.6	2376.9	2337.2	2347.6	2361.4	2368.3	2368.3
12.5°	3716.1	3507.6	3019.8	2556.1	2323.4	2259.7	2290.7	2344.1	2385.5	2402.7	2406.2
15°	3766.1	3493.8	2852.6	2349.3	2192.5	2208.0	2283.8	2361.4	2420.0	2445.8	2452.7
17.5°	3828.2	3474.8	2659.6	2178.7	2116.6	2170.0	2268.3	2366.5	2437.2	2470.0	2475.1
20°	3897.1	3447.3	2459.6	2051.1	2049.4	2116.6	2214.9	2325.2	2401.0	2437.2	2435.5
22.5°	3990.2	3421.4	2273.5	1958.0	1975.3	2037.3	2118.3	2218.3	2289.0	2321.7	2314.8
25°	4114.3	3397.3	2106.3	1875.3	1890.8	1932.2	1989.1	2064.9	2114.9	2132.1	2120.1
27.5°	4281.5	3378.3	1975.3	1799.5	1797.7	1816.7	1851.2	1892.5	1916.7	1911.5	1892.5
30°	4486.6	3359.3	1878.8	1732.2	1708.1	1706.4	1721.9	1746.0	1761.5	1730.5	1715.0
32.5°	4715.8	3326.6	1792.6	1673.6	1630.5	1615.0	1621.9	1654.7	1718.5	1687.4	1675.4
35°	4986.4	3288.7	1706.4	1609.9	1577.1	1547.8	1553.0	1623.7	1816.7	1794.3	1782.2
37.5°	5312.2	3254.2	1627.1	1540.9	1539.2	1503.0	1499.6	1584.0	1842.6	1794.3	1784.0
40°	5703.5	3247.3	1556.4	1465.1	1492.7	1478.9	1466.8	1518.5	1699.5	1601.2	1582.3
42.5°	6175.7	3278.3	1504.7	1392.7	1439.2	1472.0	1449.6	1461.6	1535.8	1447.8	1432.3
45°	6727.3	3362.8	1466.8	1328.9	1382.3	1466.8	1441.0	1430.6	1442.7	1394.4	1384.1
47.5°	7370.2	3512.7	1441.0	1275.5	1328.9	1453.0	1437.5	1416.8	1411.6	1384.1	1377.2
50°	8057.9	3714.4	1423.7	1227.2	1280.7	1428.9	1435.8	1406.5	1397.9	1385.8	1382.3
52.5°	8740.5	3933.3	1403.0	1185.9	1241.0	1399.6	1437.5	1396.1	1384.1	1377.2	1373.7
55°	9419.6	4160.8	1365.1	1149.7	1211.7	1365.1	1435.8	1382.3	1368.6	1368.6	1368.6
57.5°	10300.4	4507.3	1315.1	1120.4	1173.8	1320.3	1413.4	1366.8	1347.9	1349.6	1351.3
60°	11572.4	5088.1	1260.0	1087.6	1123.8	1268.6	1378.9	1339.3	1316.8	1323.7	1325.5
62.5°	13697.7	6103.4	1184.1	1041.1	1072.1	1213.4	1334.1	1301.3	1280.7	1292.7	1294.4
65°	16531.3	7332.3	1084.2	982.5	1018.7	1151.4	1277.2	1256.5	1234.1	1263.4	1261.7
67.5°	18260.1	7692.5	979.0	920.4	967.0	1085.9	1206.5	1197.9	1182.4	1234.1	1230.7
69°	17693.0	7041.0	918.7	880.8	930.8	1041.1	1161.7	1158.3	1146.2	1196.2	1192.7
70°	16812.2	6432.6	880.8	854.9	911.8	1013.5	1132.4	1132.4	1120.4	1163.4	1154.8
72.5°	13504.6	4771.0	792.9	789.4	846.3	937.7	1053.1	1061.8	1054.9	1070.4	1061.8
75°	7928.7	2875.0	706.7	717.0	767.0	856.6	965.2	972.1	965.2	963.5	965.2
77.5°	2749.2	1289.3	624.0	639.5	682.6	773.9	868.7	882.5	872.2	860.1	863.5
80°	1075.5	749.8	534.3	556.7	592.9	680.8	772.2	780.8	765.3	763.6	749.8
82.5°	646.4	456.8	415.4	451.6	496.4	591.2	667.0	663.6	651.5	722.2	632.6
85°	281.0	253.4	303.4	339.6	362.0	443.0	563.6	548.1	518.8	456.8	446.4
87.5°	113.8	131.0	167.2	201.7	217.2	286.1	386.1	372.3	377.5	310.3	308.5
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)