

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: P196750

Luminaire Tested: **NAV-AF-04-D-UNV-T2-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196750
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-04-D-UNV-T2-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 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: 25337.2 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G4

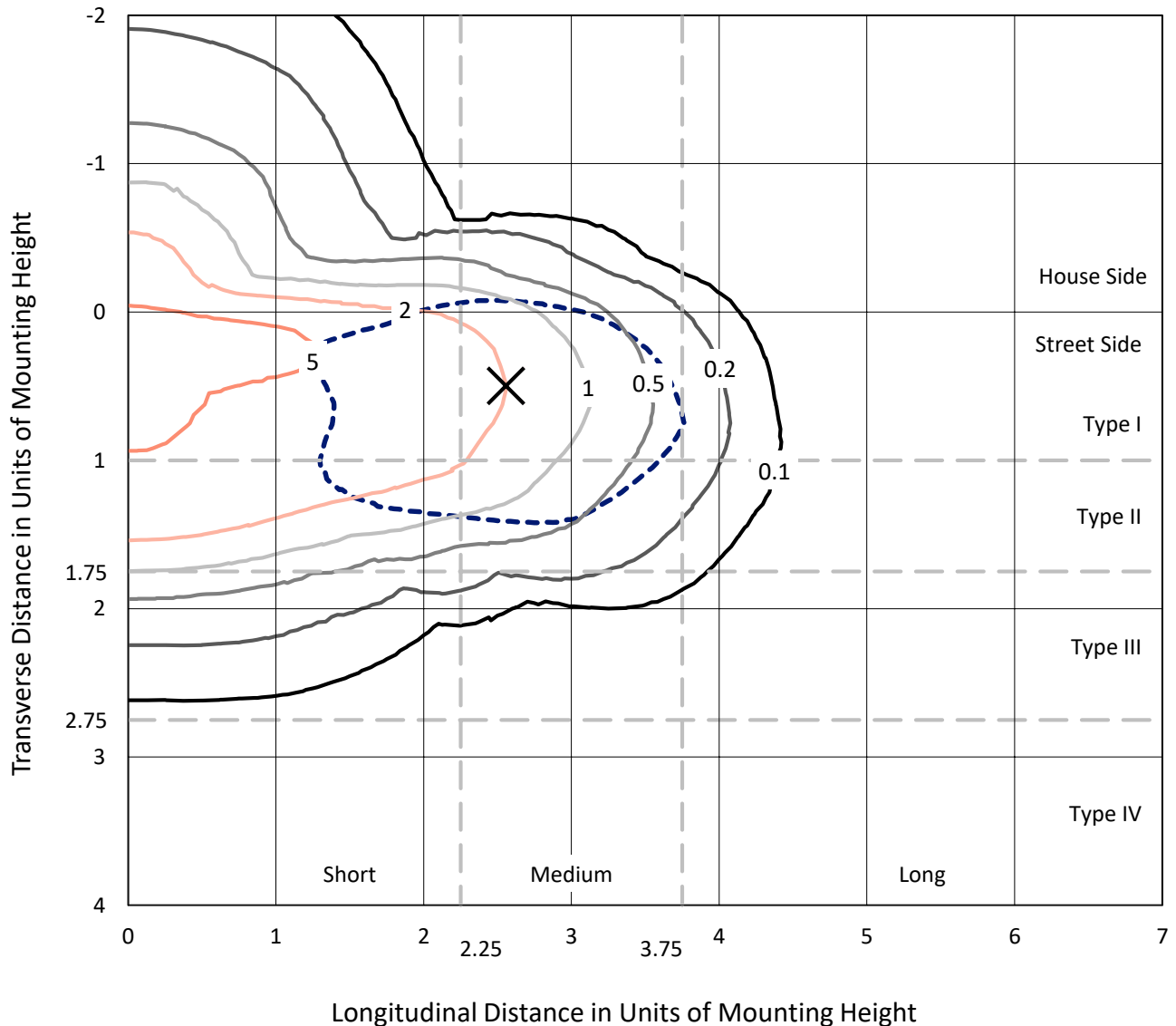
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

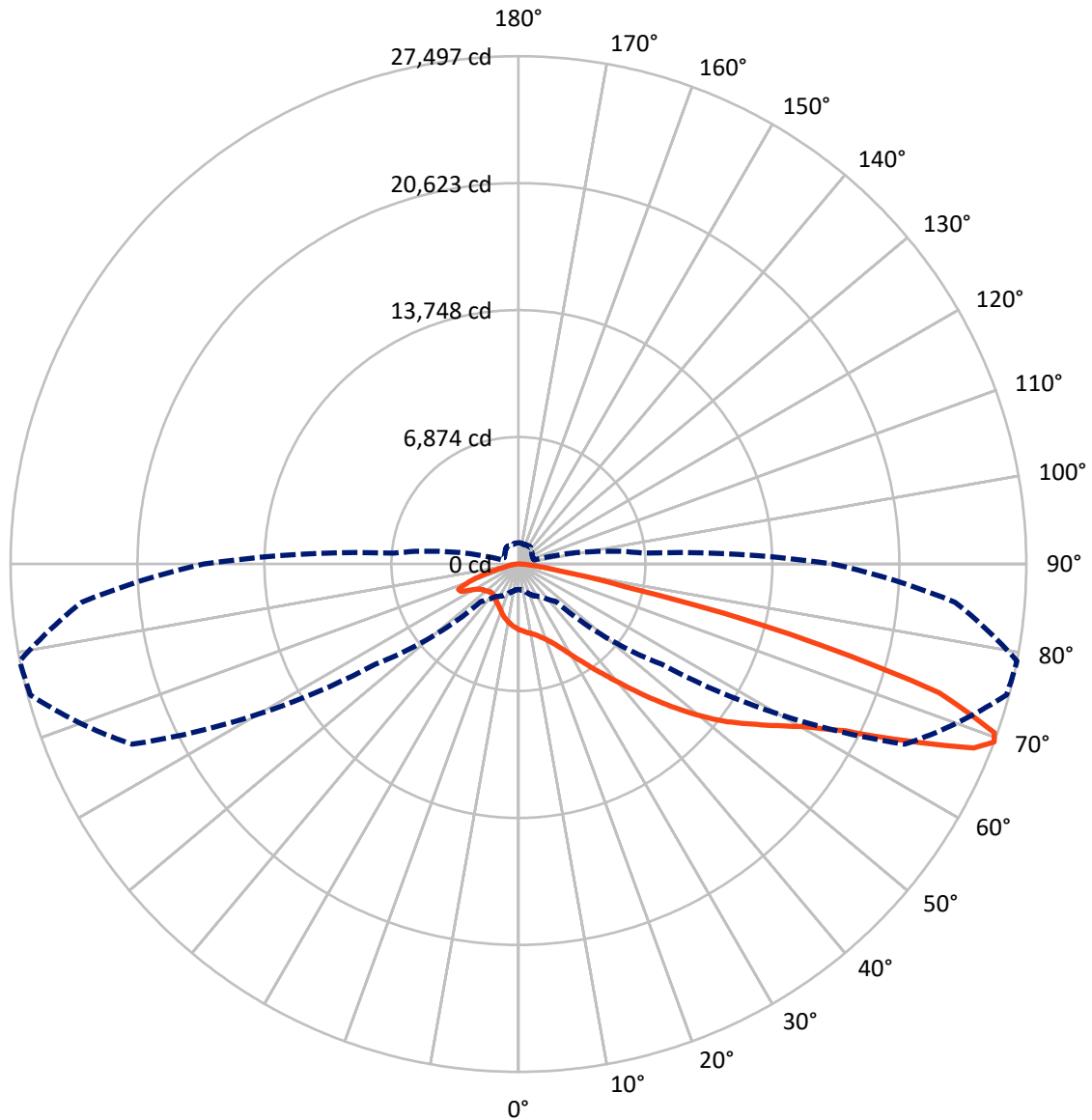
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.9 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	4766.4	0.0	4766.4
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	20570.8	0.0	20570.8
	% Fixture	81.2	0.0	81.2
Total	Lumens	25337.2	0.0	25337.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.6	1.3
10°-20°	945.0	3.7
20°-30°	1561.6	6.2
30°-40°	2528.6	10.0
40°-50°	4039.4	15.9
50°-60°	5784.9	22.8
60°-70°	6445.2	25.4
70°-80°	3224.4	12.7
80°-90°	478.5	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°	25337.2	100.0
0°-180°	25337.2	100.0



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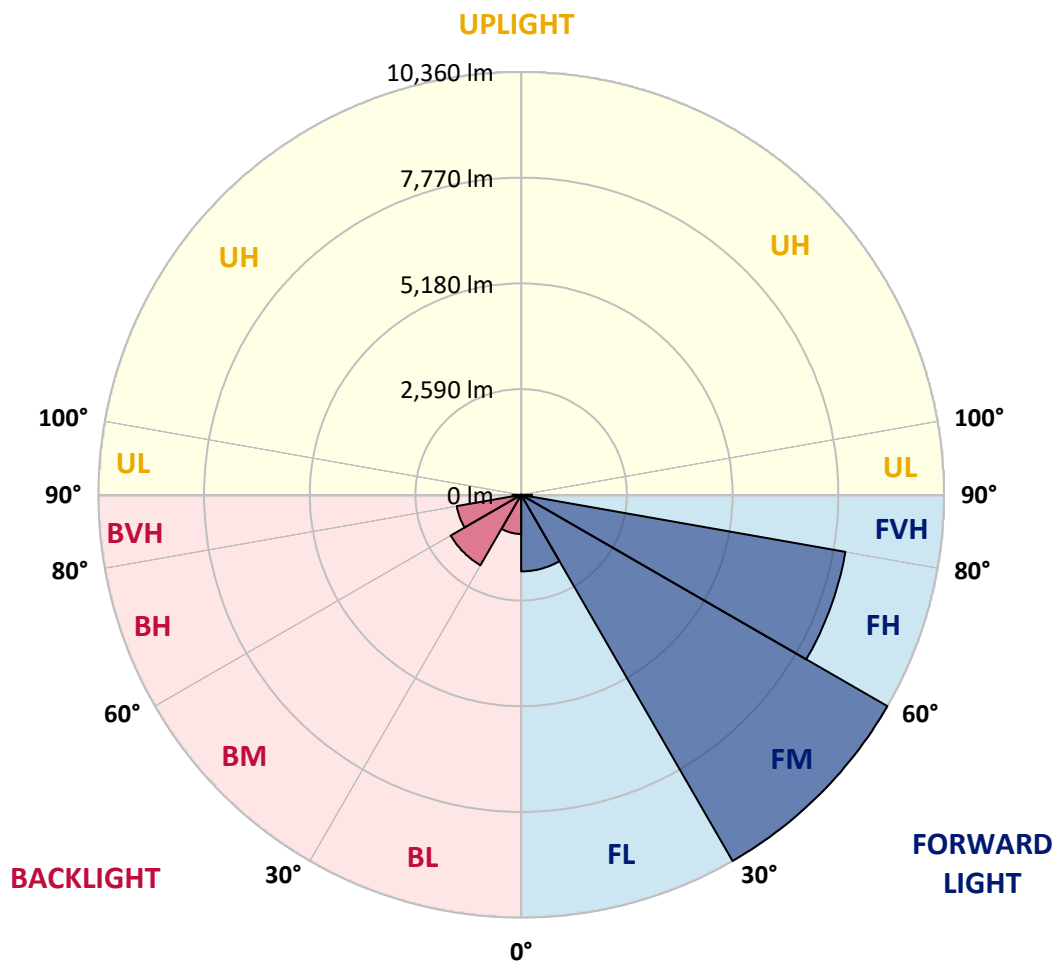
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1876.0	7.4			
FM (30°-60°)	10360.4	40.9			
FH (60°-80°)	8067.0	31.8			G4/12000
FVH (80°-90°)	267.4	1.1			G3/500
BL (0°-30°)	960.2	3.8	B2/1000		
BM (30°-60°)	1992.4	7.9	B2/2500		
BH (60°-80°)	1602.6	6.3	B3/2500		G3/2500
BVH (80°-90°)	211.1	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°	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7
2.5°	3903.8	3895.4	3893.8	3868.9	3855.6	3827.5	3761.1	3693.2	3630.2	3597.1	3562.3
5°	4230.3	4213.7	4205.4	4164.0	4127.5	4064.6	3960.1	3852.4	3739.6	3681.6	3612.0
7.5°	4427.5	4429.2	4429.2	4396.0	4359.6	4283.3	4150.6	4003.2	3835.8	3759.5	3650.2
10°	4444.1	4445.8	4470.7	4478.9	4487.2	4447.4	4324.7	4139.1	3923.6	3824.2	3681.6
12.5°	4280.0	4291.6	4333.0	4392.8	4477.2	4520.4	4467.3	4284.9	4036.4	3915.3	3741.2
15°	4059.5	4071.1	4124.2	4215.3	4351.2	4495.5	4570.1	4452.5	4183.9	4041.3	3829.1
17.5°	3951.8	3965.0	4001.5	4074.5	4207.0	4401.0	4624.8	4631.4	4358.0	4193.8	3933.6
20°	3900.4	3910.4	3956.8	4016.5	4117.6	4303.1	4629.8	4820.4	4565.1	4374.5	4061.1
22.5°	4018.1	4021.4	4044.6	4077.8	4145.8	4288.3	4626.5	5016.0	4823.7	4601.6	4225.3
25°	4362.8	4341.3	4324.7	4283.3	4299.9	4401.0	4679.5	5224.9	5155.2	4899.9	4444.1
27.5°	4770.7	4767.3	4724.3	4628.1	4566.8	4631.4	4830.4	5458.6	5561.3	5279.5	4730.9
30°	5224.9	5226.5	5181.7	5064.0	4939.7	4946.3	5070.7	5728.8	6047.1	5737.1	5084.0
32.5°	5700.6	5730.4	5647.5	5529.8	5379.1	5331.0	5415.4	6055.3	6609.0	6277.5	5493.3
35°	6269.2	6274.1	6183.0	6010.6	5859.7	5783.4	5861.3	6463.1	7257.1	6912.3	5992.4
37.5°	6859.3	6862.6	6768.1	6547.6	6357.0	6307.3	6393.6	6958.7	7943.3	7635.0	6579.1
40°	7341.6	7376.4	7301.9	7094.6	6902.4	6872.5	6996.9	7552.1	8820.3	8490.3	7277.0
42.5°	7888.6	7928.4	7839.0	7623.4	7470.9	7461.0	7654.9	8228.5	9692.2	9480.0	8067.7
45°	8505.3	8561.7	8437.3	8195.3	8066.1	8284.8	8296.4	8977.8	10696.7	10587.2	8957.8
47.5°	9178.4	9224.6	9123.5	8863.3	8722.5	9039.0	8924.7	9788.3	11782.4	11774.1	9921.0
50°	9697.1	9748.5	9758.5	9644.1	9496.6	9536.3	9614.3	10640.3	12864.8	12994.2	10917.1
52.5°	9602.7	9652.4	9876.2	10176.2	10413.2	10310.5	10405.0	11545.4	13910.8	14184.4	11863.7
55°	8840.1	8866.6	9286.1	9998.9	11008.3	11499.0	11505.5	12530.0	14905.3	15288.3	12762.0
57.5°	7466.0	7469.3	8014.6	9065.6	10661.8	12269.9	13242.8	13766.5	15943.1	16508.3	13876.0
60°	5282.9	5296.2	5931.0	7305.2	9420.4	12177.0	15111.0	15979.5	17144.9	17879.1	15311.5
62.5°	3136.3	3166.2	3645.1	4747.5	6996.9	10983.4	16214.9	19916.5	18915.2	19889.9	17609.0
65°	2040.5	2065.4	2352.2	2905.9	4134.2	7991.4	15851.9	23728.9	22265.3	23052.6	20911.0
67.5°	1571.4	1591.4	1816.8	2151.7	2536.1	4319.8	12674.2	24527.9	26343.1	26588.4	23697.5
69°	1380.8	1397.4	1563.2	1884.7	2135.0	2859.5	9445.1	23077.5	27362.5	27496.7	23732.3
70°	1279.7	1293.0	1448.8	1727.3	1960.9	2282.5	7228.9	21393.4	26989.5	27332.7	23047.7
72.5°	1054.3	1065.9	1176.9	1390.8	1603.0	1626.1	3202.5	15621.5	22726.0	23823.4	19503.7
75°	880.2	886.8	959.8	1115.5	1297.9	1294.6	1636.0	8848.5	13867.7	15175.6	12042.7
77.5°	734.3	739.2	787.3	883.5	1024.5	1019.4	1152.0	3819.1	6123.3	5907.7	4145.8
80°	648.1	651.4	676.4	701.2	790.7	785.7	853.7	1753.7	2491.4	2302.4	1568.1
82.5°	492.3	499.0	625.0	636.6	613.3	591.7	595.1	1021.1	1276.3	1162.0	842.1
85°	278.5	280.1	401.2	469.2	533.7	401.2	386.2	527.1	629.9	552.0	367.9
87.5°	124.3	129.3	192.3	222.2	288.5	235.4	220.4	223.8	271.8	225.4	145.9
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°	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7	3555.7
2.5°	3529.1	3500.8	3434.6	3366.6	3298.6	3255.6	3210.8	3169.4	3152.7	3151.1	3119.7
5°	3544.1	3477.7	3326.8	3161.1	3003.6	2880.9	2778.1	2712.0	2647.3	2635.7	2607.5
7.5°	3549.0	3441.2	3196.0	2930.7	2690.3	2521.2	2418.5	2373.7	2342.2	2333.9	2324.0
10°	3547.3	3394.8	3050.1	2687.0	2413.5	2285.9	2247.8	2257.8	2271.0	2277.6	2277.6
12.5°	3573.9	3373.3	2904.1	2458.3	2234.5	2173.1	2203.0	2254.3	2294.1	2310.8	2314.0
15°	3622.0	3360.0	2743.4	2259.4	2108.4	2123.5	2196.3	2271.0	2327.3	2352.2	2358.8
17.5°	3681.6	3341.8	2557.8	2095.3	2035.6	2087.0	2181.5	2275.9	2343.9	2375.4	2380.3
20°	3747.9	3315.3	2365.5	1972.5	1970.9	2035.6	2130.0	2236.1	2309.0	2343.9	2342.2
22.5°	3837.4	3290.4	2186.4	1883.1	1899.7	1959.3	2037.2	2133.4	2201.3	2232.8	2226.1
25°	3956.8	3267.2	2025.6	1803.6	1818.4	1858.2	1912.9	1985.8	2033.9	2050.5	2038.9
27.5°	4117.6	3249.0	1899.7	1730.5	1728.9	1747.2	1780.3	1820.0	1843.3	1838.3	1820.0
30°	4314.7	3230.7	1806.8	1665.8	1642.7	1641.1	1656.0	1679.2	1694.1	1664.2	1649.4
32.5°	4535.3	3199.2	1723.9	1609.6	1568.1	1553.2	1559.7	1591.4	1652.6	1622.8	1611.2
35°	4795.5	3162.7	1641.1	1548.2	1516.7	1488.5	1493.6	1561.6	1747.2	1725.6	1714.0
37.5°	5108.9	3129.6	1564.8	1481.9	1480.3	1445.5	1442.1	1523.4	1771.9	1725.6	1715.7
40°	5485.2	3122.9	1496.9	1409.0	1435.5	1422.2	1410.6	1460.4	1634.4	1539.9	1521.7
42.5°	5939.4	3152.7	1447.1	1339.4	1384.1	1415.6	1394.0	1405.6	1476.9	1392.4	1377.5
45°	6469.7	3234.1	1410.6	1278.0	1329.4	1410.6	1385.7	1375.8	1387.5	1341.0	1331.1
47.5°	7087.9	3378.3	1385.7	1226.7	1278.0	1397.4	1382.4	1362.6	1357.5	1331.1	1324.4
50°	7749.4	3572.2	1369.2	1180.2	1231.6	1374.2	1380.8	1352.6	1344.3	1332.8	1329.4
52.5°	8405.9	3782.7	1349.4	1140.4	1193.4	1346.0	1382.4	1342.7	1331.1	1324.4	1321.2
55°	9058.9	4001.5	1312.9	1105.6	1165.4	1312.9	1380.8	1329.4	1316.1	1316.1	1316.1
57.5°	9906.0	4334.8	1264.7	1077.4	1128.8	1269.7	1359.3	1314.5	1296.3	1297.9	1299.5
60°	11129.3	4893.2	1211.6	1045.9	1080.8	1220.0	1326.1	1287.9	1266.5	1273.1	1274.7
62.5°	13173.2	5869.6	1138.8	1001.3	1031.1	1167.0	1283.0	1251.4	1231.6	1243.3	1244.9
65°	15898.4	7051.6	1042.7	944.9	979.6	1107.4	1228.3	1208.4	1186.9	1215.1	1213.5
67.5°	17560.9	7398.0	941.5	885.2	929.9	1044.3	1160.4	1152.0	1137.2	1186.9	1183.5
69°	17015.6	6771.5	883.5	847.1	895.2	1001.3	1117.2	1113.9	1102.3	1150.4	1147.1
70°	16168.5	6186.3	847.1	822.1	877.0	974.7	1089.1	1089.1	1077.4	1119.0	1110.6
72.5°	12987.5	4588.4	762.5	759.3	813.9	901.7	1012.9	1021.1	1014.5	1029.4	1021.1
75°	7625.1	2765.0	679.6	689.5	737.6	823.9	928.2	934.9	928.2	926.6	928.2
77.5°	2644.0	1239.9	600.1	615.0	656.4	744.3	835.4	848.7	838.8	827.2	830.5
80°	1034.3	721.1	513.8	535.4	570.3	654.8	742.6	750.9	736.0	734.3	721.1
82.5°	621.5	439.2	399.5	434.3	477.4	568.5	641.5	638.2	626.6	694.6	608.3
85°	270.2	243.6	291.7	326.5	348.1	426.0	542.0	527.1	499.0	439.2	429.3
87.5°	109.4	125.9	160.8	193.9	208.9	275.2	371.3	358.1	363.1	298.4	296.7
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)