

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: P196271

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196271
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-T2-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 33028 lumens
Efficiency: N/A
Efficacy: 103.2 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

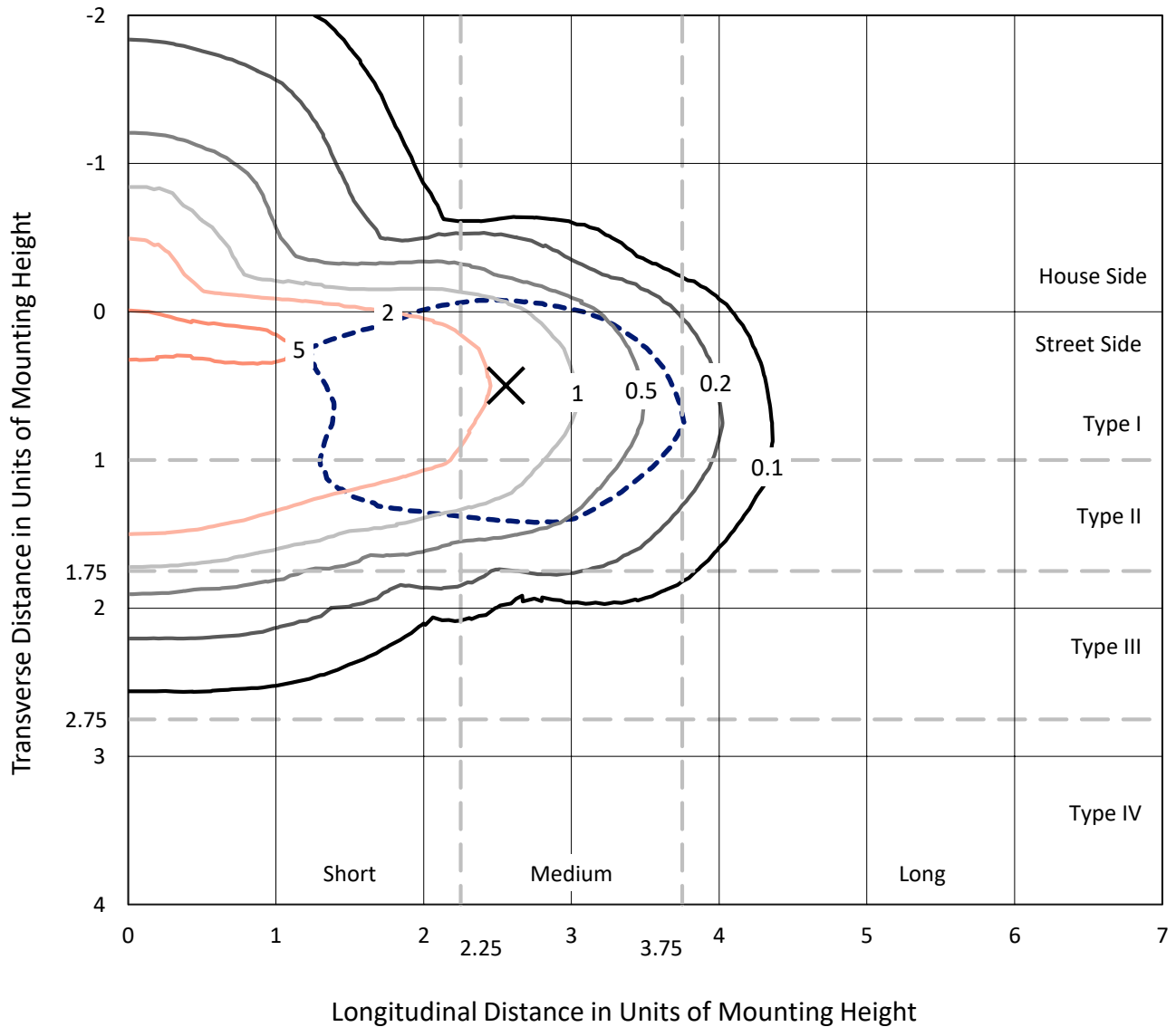
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

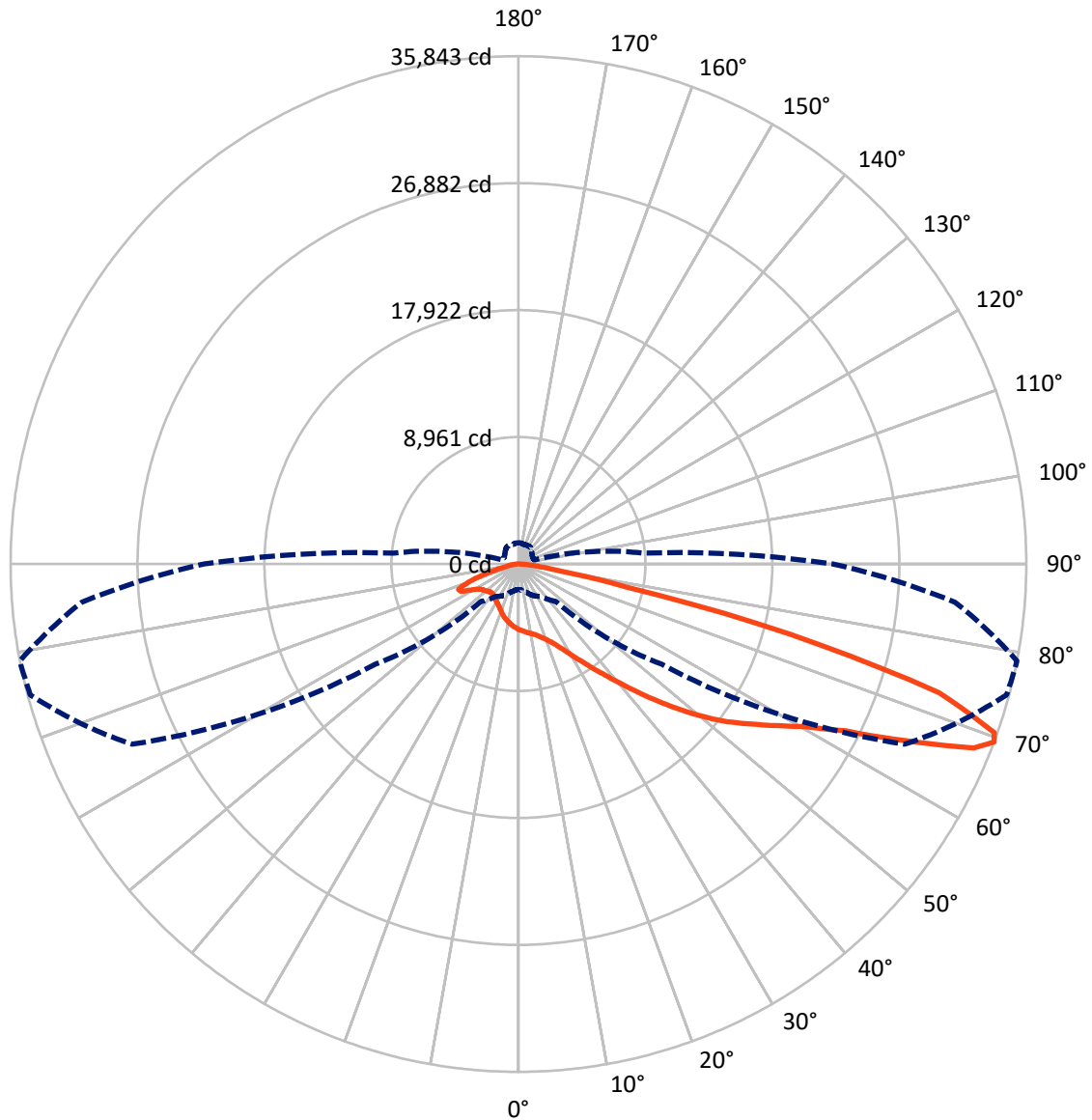
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 6.2 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	6213.2	0.0	6213.2
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	26814.8	0.0	26814.8
	% Fixture	81.2	0.0	81.2
Total	Lumens	33028.0	0.0	33028.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	429.7	1.3
10°-20°	1231.9	3.7
20°-30°	2035.6	6.2
30°-40°	3296.1	10.0
40°-50°	5265.5	15.9
50°-60°	7540.8	22.8
60°-70°	8401.5	25.4
70°-80°	4203.2	12.7
80°-90°	623.8	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°	33028.0	100.0
0°-180°	33028.0	100.0



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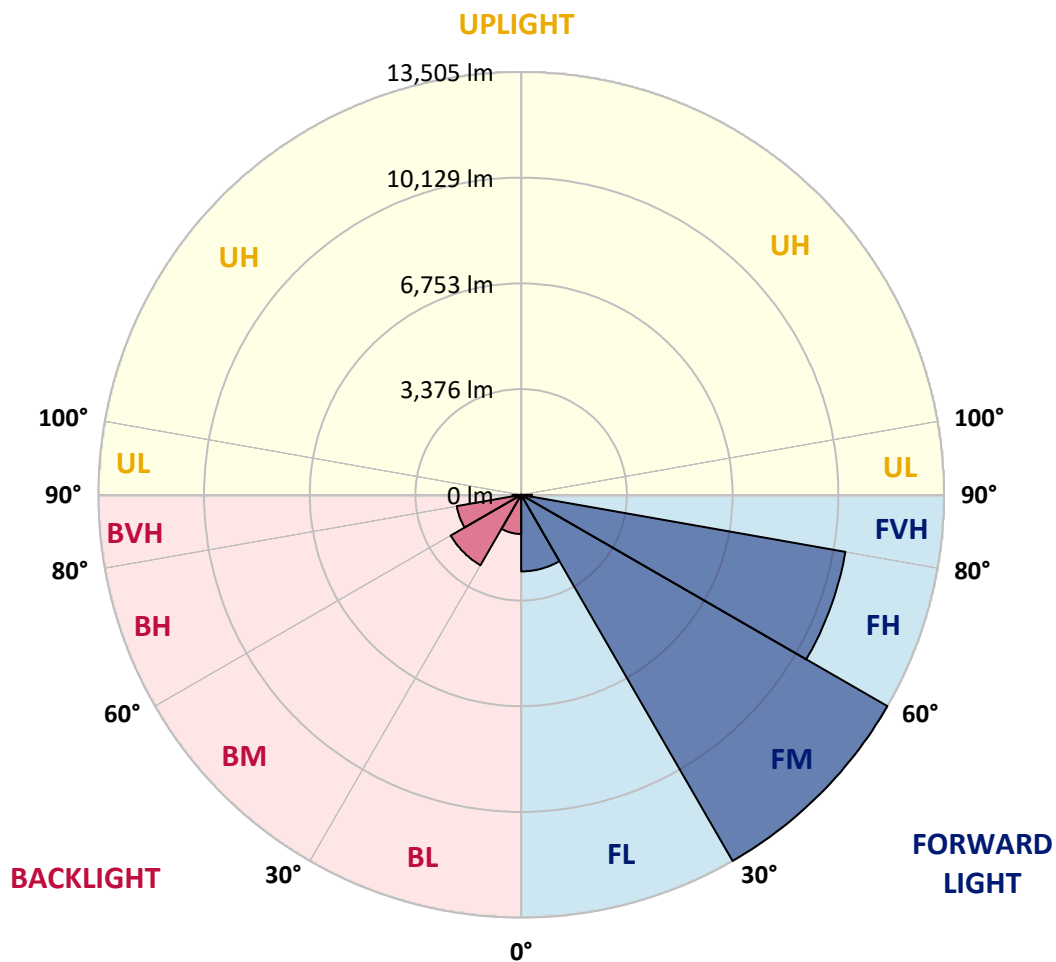
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2445.4	7.4			
FM (30°-60°)	13505.2	40.9			
FH (60°-80°)	10515.7	31.8			G4/12000
FVH (80°-90°)	348.5	1.1			G3/500
BL (0°-30°)	1251.7	3.8	B3/2500		
BM (30°-60°)	2597.2	7.9	B3/5000		
BH (60°-80°)	2089.1	6.3	B3/2500		G3/2500
BVH (80°-90°)	275.2	0.8			G3/500
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°	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9
2.5°	5088.7	5077.8	5075.7	5043.2	5026.0	4989.2	4902.8	4814.2	4732.1	4688.9	4643.5
5°	5514.3	5492.7	5481.9	5427.9	5380.3	5298.3	5162.1	5021.7	4874.8	4799.1	4708.3
7.5°	5771.5	5773.6	5773.6	5730.4	5682.9	5583.5	5410.6	5218.3	5000.1	4900.7	4758.1
10°	5793.1	5795.2	5827.6	5838.4	5849.2	5797.4	5637.5	5395.5	5114.5	4984.9	4799.1
12.5°	5579.2	5594.2	5648.3	5726.1	5836.2	5892.4	5823.4	5585.6	5261.5	5103.8	4876.9
15°	5291.7	5306.9	5376.0	5494.9	5672.1	5860.1	5957.3	5803.8	5453.8	5268.0	4991.4
17.5°	5151.3	5168.6	5216.1	5311.2	5484.0	5736.9	6028.6	6037.3	5680.7	5466.8	5127.5
20°	5084.3	5097.3	5157.8	5235.6	5367.4	5609.4	6035.1	6283.6	5950.8	5702.3	5293.9
22.5°	5237.7	5242.0	5272.3	5315.6	5404.1	5589.9	6030.7	6538.5	6287.9	5998.3	5507.9
25°	5687.2	5659.1	5637.5	5583.5	5605.1	5736.9	6099.9	6810.8	6720.1	6387.3	5793.1
27.5°	6218.7	6214.4	6158.3	6032.9	5953.0	6037.3	6296.5	7115.4	7249.4	6882.1	6166.9
30°	6810.8	6813.0	6754.6	6601.2	6439.2	6447.8	6609.8	7467.6	7882.6	7478.5	6627.1
32.5°	7430.9	7469.8	7361.8	7208.3	7011.7	6949.1	7059.3	7893.3	8615.0	8182.9	7160.9
35°	8172.0	8178.6	8059.7	7835.0	7638.4	7538.9	7640.5	8424.9	9459.9	9010.5	7811.3
37.5°	8941.3	8945.6	8822.4	8535.1	8286.6	8221.8	8334.1	9070.9	10354.4	9952.6	8576.1
40°	9570.1	9615.4	9518.3	9248.1	8997.5	8958.6	9120.6	9844.5	11497.6	11067.5	9485.8
42.5°	10283.1	10335.0	10218.4	9937.5	9738.6	9725.7	9978.5	10726.2	12634.1	12357.6	10516.5
45°	11086.9	11160.4	10998.4	10682.9	10514.4	10799.6	10814.7	11702.8	13943.5	13800.9	11676.9
47.5°	11964.2	12024.8	11892.9	11553.7	11370.0	11782.8	11633.6	12759.4	15358.8	15348.0	12932.2
50°	12640.6	12707.5	12720.5	12571.5	12379.1	12431.0	12532.5	13870.1	16769.8	16938.3	14230.9
52.5°	12517.4	12582.2	12873.9	13265.0	13574.0	13440.0	13563.2	15049.9	18133.2	18489.8	15464.7
55°	11523.4	11558.0	12104.7	13033.8	14349.7	14989.3	14998.0	16333.4	19429.7	19928.9	16635.8
57.5°	9732.1	9736.4	10447.4	11817.3	13898.1	15994.1	17262.5	17945.3	20782.4	21519.2	18087.9
60°	6886.4	6903.7	7731.3	9522.5	12279.7	15873.1	19697.6	20829.9	22348.9	23306.2	19959.1
62.5°	4088.2	4127.1	4751.6	6188.4	9120.6	14317.3	21136.7	25961.8	24656.7	25927.2	22954.0
65°	2659.9	2692.3	3066.2	3787.9	5389.0	10417.1	20663.5	30931.6	29023.6	30050.0	27258.3
67.5°	2048.5	2074.3	2368.2	2804.7	3306.0	5631.0	16521.4	31973.0	34339.1	34658.9	30890.6
69°	1799.9	1821.6	2037.6	2456.8	2783.0	3727.3	12312.1	30082.4	35668.0	35843.1	30935.9
70°	1668.1	1685.4	1888.6	2251.5	2556.3	2975.4	9423.1	27887.1	35181.8	35629.1	30043.5
72.5°	1374.2	1389.4	1534.1	1812.9	2089.5	2119.8	4174.7	20363.2	29624.3	31054.7	25423.7
75°	1147.3	1156.0	1251.1	1454.2	1691.9	1687.6	2132.6	11534.3	18077.1	19781.9	15698.1
77.5°	957.2	963.7	1026.3	1151.7	1335.4	1328.9	1501.7	4978.4	7981.9	7701.0	5404.1
80°	844.9	849.2	881.6	914.0	1030.7	1024.2	1112.8	2286.1	3247.7	3001.3	2044.1
82.5°	641.8	650.4	814.6	829.7	799.5	771.4	775.7	1331.1	1663.8	1514.7	1097.6
85°	363.0	365.2	522.9	611.5	695.8	522.9	503.5	687.1	821.1	719.5	479.7
87.5°	162.0	168.6	250.6	289.5	375.9	306.8	287.3	291.7	354.4	293.9	190.2
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°	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9	4634.9
2.5°	4600.3	4563.6	4477.1	4388.6	4300.0	4243.8	4185.4	4131.4	4109.8	4107.7	4066.6
5°	4619.7	4533.3	4336.7	4120.7	3915.3	3755.5	3621.5	3535.0	3450.7	3435.7	3399.0
7.5°	4626.2	4485.7	4166.0	3820.2	3507.0	3286.5	3152.5	3094.2	3053.2	3042.4	3029.4
10°	4624.0	4425.3	3975.8	3502.6	3146.1	2979.8	2930.0	2943.0	2960.3	2968.9	2968.9
12.5°	4658.6	4397.2	3785.7	3204.4	2912.8	2832.8	2871.6	2938.6	2990.5	3012.1	3016.5
15°	4721.3	4379.9	3576.1	2945.2	2748.5	2768.0	2863.0	2960.3	3033.8	3066.2	3074.8
17.5°	4799.1	4356.1	3334.1	2731.2	2653.4	2720.4	2843.6	2966.8	3055.3	3096.4	3102.9
20°	4885.5	4321.6	3083.5	2571.3	2569.1	2653.4	2776.6	2914.9	3009.9	3055.3	3053.2
22.5°	5002.2	4289.1	2850.0	2454.7	2476.3	2554.0	2655.6	2780.9	2869.5	2910.6	2901.9
25°	5157.8	4258.9	2640.4	2350.9	2370.4	2422.2	2493.5	2588.6	2651.3	2672.9	2657.7
27.5°	5367.4	4235.1	2476.3	2255.8	2253.7	2277.5	2320.7	2372.5	2402.8	2396.3	2372.5
30°	5624.5	4211.4	2355.2	2171.6	2141.3	2139.2	2158.6	2188.9	2208.3	2169.5	2149.9
32.5°	5911.9	4170.3	2247.2	2098.1	2044.1	2024.6	2033.3	2074.3	2154.3	2115.4	2100.3
35°	6251.2	4122.8	2139.2	2018.2	1977.2	1940.3	1946.9	2035.5	2277.5	2249.4	2234.2
37.5°	6659.5	4079.5	2039.8	1931.7	1929.6	1884.2	1879.9	1985.8	2309.9	2249.4	2236.4
40°	7150.0	4070.9	1951.2	1836.7	1871.3	1854.0	1838.9	1903.6	2130.5	2007.3	1983.6
42.5°	7742.1	4109.8	1886.3	1745.9	1804.3	1845.3	1817.2	1832.3	1925.3	1815.0	1795.6
45°	8433.5	4215.7	1838.9	1666.0	1733.0	1838.9	1806.4	1793.4	1808.6	1748.1	1735.1
47.5°	9239.5	4403.7	1806.4	1599.0	1666.0	1821.6	1802.1	1776.1	1769.7	1735.1	1726.4
50°	10101.6	4656.5	1784.8	1538.5	1605.4	1791.3	1799.9	1763.2	1752.4	1737.3	1733.0
52.5°	10957.3	4930.9	1758.9	1486.7	1555.8	1754.6	1802.1	1750.3	1735.1	1726.4	1722.1
55°	11808.6	5216.1	1711.3	1441.2	1519.0	1711.3	1799.9	1733.0	1715.7	1715.7	1715.7
57.5°	12912.8	5650.5	1648.7	1404.5	1471.5	1655.1	1771.9	1713.5	1689.7	1691.9	1694.0
60°	14507.5	6378.6	1579.5	1363.5	1408.8	1590.4	1728.6	1679.0	1650.8	1659.4	1661.7
62.5°	17171.8	7651.4	1484.5	1305.1	1344.1	1521.2	1672.4	1631.4	1605.4	1620.6	1622.7
65°	20724.1	9191.9	1359.1	1231.6	1277.1	1443.4	1601.1	1575.2	1547.1	1583.8	1581.7
67.5°	22891.3	9643.6	1227.3	1153.9	1212.2	1361.2	1512.5	1501.7	1482.3	1547.1	1542.8
69°	22180.4	8826.8	1151.7	1104.2	1166.8	1305.1	1456.4	1452.1	1436.9	1499.5	1495.2
70°	21076.3	8064.0	1104.2	1071.7	1143.0	1270.5	1419.7	1419.7	1404.5	1458.5	1447.7
72.5°	16929.7	5981.1	994.0	989.6	1060.9	1175.5	1320.2	1331.1	1322.4	1341.8	1331.1
75°	9939.6	3604.2	885.9	898.9	961.6	1073.9	1210.0	1218.6	1210.0	1207.9	1210.0
77.5°	3446.4	1616.3	782.3	801.7	855.7	970.2	1089.0	1106.3	1093.3	1078.2	1082.6
80°	1348.4	940.0	669.8	698.0	743.3	853.6	968.0	978.9	959.4	957.2	940.0
82.5°	810.3	572.6	520.8	566.1	622.3	741.1	836.3	831.9	816.7	905.4	793.0
85°	352.2	317.6	380.3	425.6	453.8	555.4	706.6	687.1	650.4	572.6	559.7
87.5°	142.6	164.2	209.6	252.8	272.2	358.6	484.1	466.8	473.2	388.9	386.8
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)