

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: P195791

Luminaire Tested: **NAV-AF-05-D-UNV-T2-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195791
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-T2-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 32287 lumens
Efficiency: N/A
Efficacy: 100.9 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

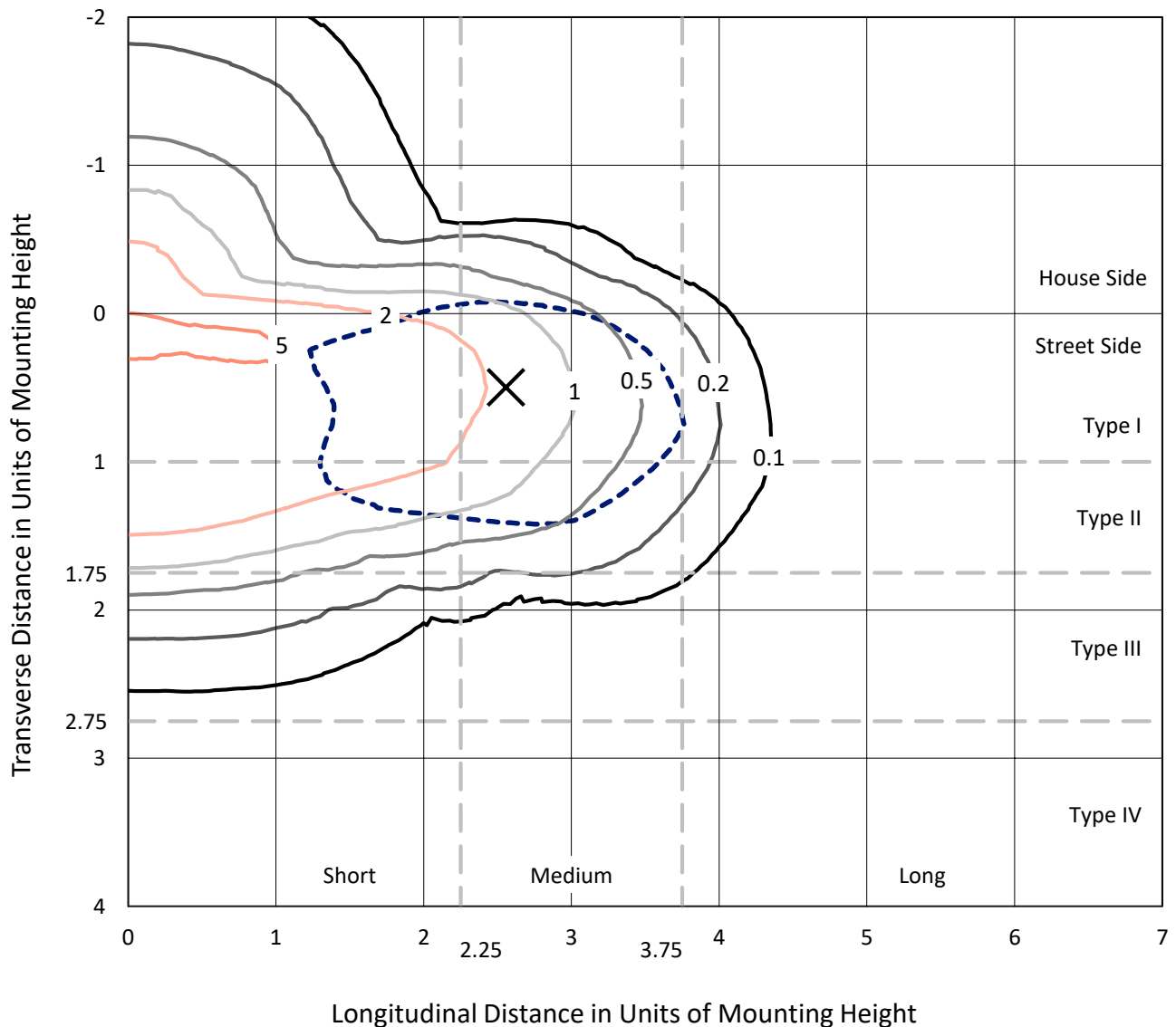


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Iso-Footcandle Lines of Horizontal Illumination

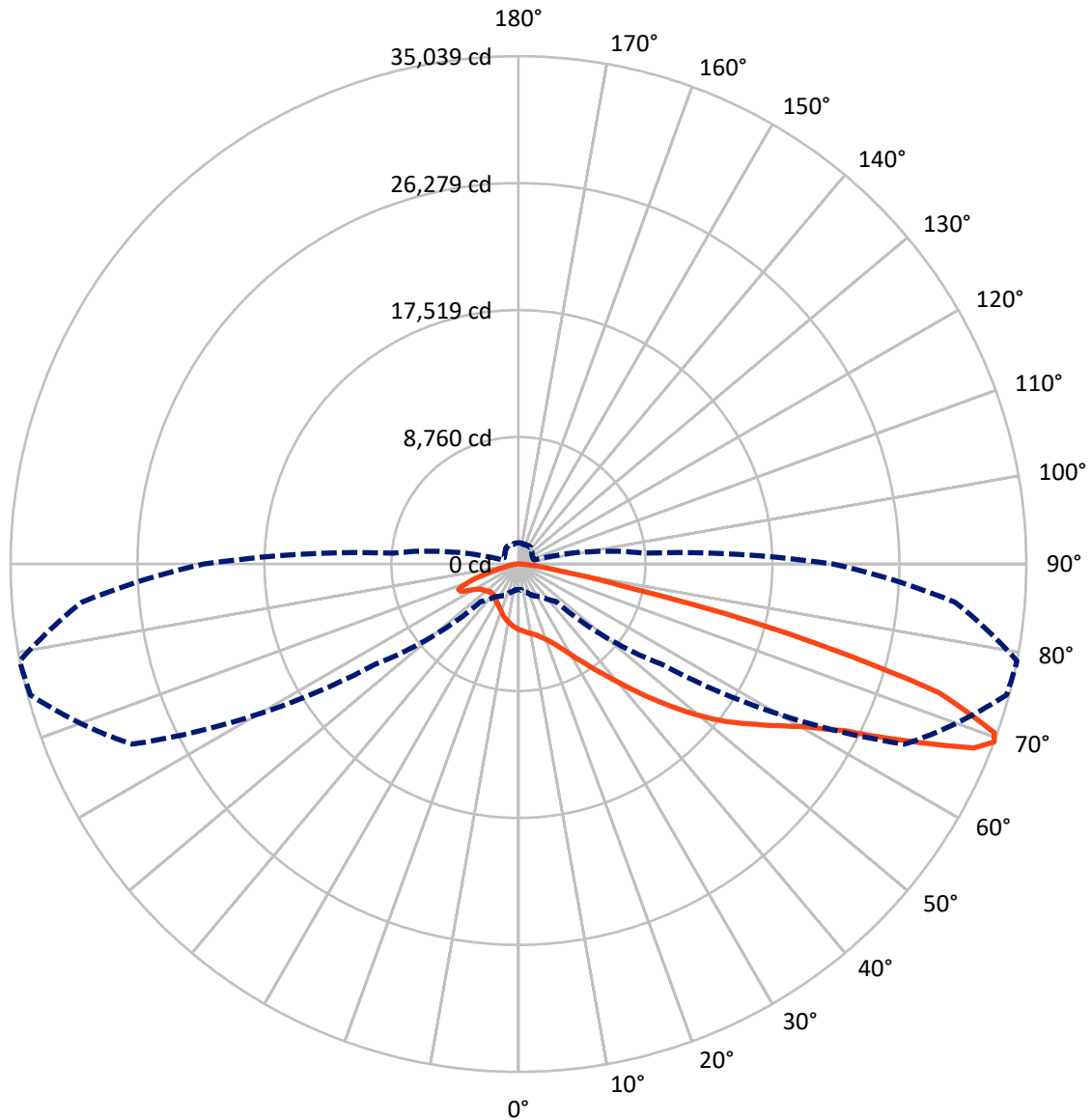
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 6.1 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	6073.8	0.0	6073.8
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	26213.2	0.0	26213.2
	% Fixture	81.2	0.0	81.2
Total	Lumens	32287.0	0.0	32287.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	420.0	1.3
10°-20°	1204.2	3.7
20°-30°	1989.9	6.2
30°-40°	3222.2	10.0
40°-50°	5147.4	15.9
50°-60°	7371.6	22.8
60°-70°	8213.1	25.4
70°-80°	4108.9	12.7
80°-90°	609.8	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°	32287.0	100.0
0°-180°	32287.0	100.0



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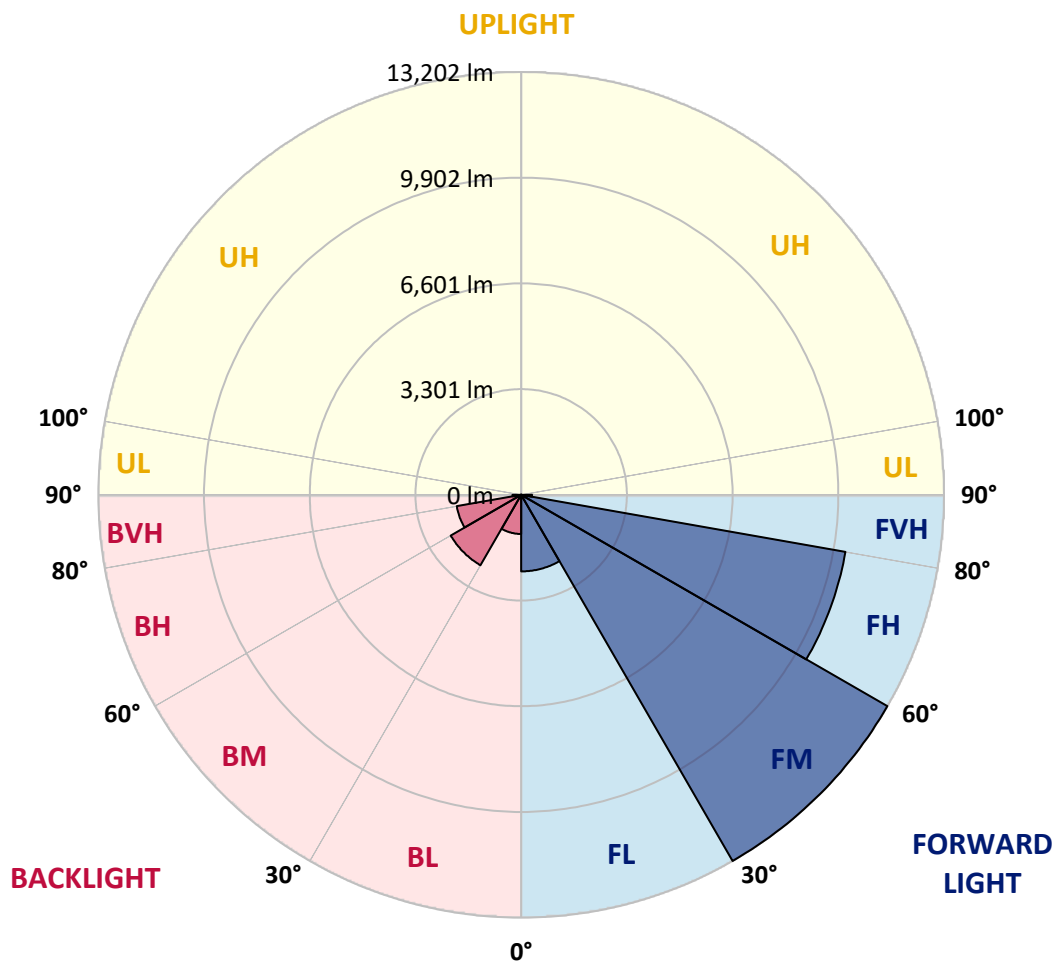
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2390.6	7.4			
FM (30°-60°)	13202.2	40.9			
FH (60°-80°)	10279.7	31.8			G4/12000
FVH (80°-90°)	340.7	1.1			G3/500
BL (0°-30°)	1223.6	3.8	B3/2500		
BM (30°-60°)	2538.9	7.9	B3/5000		
BH (60°-80°)	2042.2	6.3	B3/2500		G3/2500
BVH (80°-90°)	269.0	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°	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9
2.5°	4974.5	4963.9	4961.8	4930.1	4913.2	4877.3	4792.8	4706.2	4625.9	4583.7	4539.3
5°	5390.6	5369.5	5358.9	5306.1	5259.6	5179.4	5046.3	4909.0	4765.4	4691.4	4602.7
7.5°	5642.0	5644.1	5644.1	5601.8	5555.4	5458.2	5289.2	5101.2	4887.9	4790.7	4651.3
10°	5663.1	5665.2	5696.9	5707.4	5718.0	5667.3	5511.0	5274.4	4999.8	4873.1	4691.4
12.5°	5454.0	5468.7	5521.6	5597.6	5705.3	5760.2	5692.7	5460.3	5143.5	4989.3	4767.5
15°	5173.0	5187.8	5255.4	5371.6	5544.8	5728.6	5823.6	5673.6	5331.4	5149.8	4879.4
17.5°	5035.7	5052.6	5099.1	5192.0	5361.0	5608.2	5893.3	5901.8	5553.2	5344.1	5012.5
20°	4970.2	4982.9	5042.1	5118.1	5247.0	5483.5	5899.7	6142.6	5817.3	5574.4	5175.1
22.5°	5120.2	5124.4	5154.0	5196.3	5282.9	5464.5	5895.4	6391.8	6146.8	5863.7	5384.3
25°	5559.6	5532.1	5511.0	5458.2	5479.3	5608.2	5963.0	6658.0	6569.3	6244.0	5663.1
27.5°	6079.2	6075.0	6020.1	5897.5	5819.4	5901.8	6155.2	6955.8	7086.8	6727.7	6028.5
30°	6658.0	6660.1	6603.1	6453.1	6294.7	6303.1	6461.5	7300.1	7705.7	7310.7	6478.4
32.5°	7264.2	7302.2	7196.6	7046.6	6854.4	6793.2	6900.9	7716.2	8421.7	7999.3	7000.2
35°	7988.7	7995.1	7878.9	7659.2	7467.0	7369.8	7469.1	8235.9	9247.7	8808.3	7636.0
37.5°	8740.7	8744.9	8624.5	8343.6	8100.7	8037.3	8147.1	8867.4	10122.1	9729.3	8383.7
40°	9355.4	9399.7	9304.7	9040.6	8795.6	8757.6	8916.0	9623.6	11239.6	10819.2	9273.0
42.5°	10052.4	10103.1	9989.1	9714.5	9520.1	9507.5	9754.6	10485.5	12350.6	12080.3	10280.6
45°	10838.2	10910.0	10751.6	10443.2	10278.5	10557.3	10572.1	11440.2	13630.7	13491.3	11414.9
47.5°	11695.8	11755.0	11626.1	11294.5	11114.9	11518.4	11372.6	12473.1	15014.2	15003.7	12642.1
50°	12357.0	12422.4	12435.1	12289.4	12101.4	12152.1	12251.3	13558.9	16393.6	16558.3	13911.6
52.5°	12236.6	12299.9	12585.1	12967.4	13269.5	13138.5	13258.9	14712.2	17726.4	18075.0	15117.7
55°	11264.9	11298.7	11833.1	12741.4	14027.8	14653.0	14661.5	15966.9	18993.8	19481.8	16262.6
57.5°	9513.8	9518.0	10213.0	11552.2	13586.3	15635.3	16875.2	17542.7	20316.1	21036.4	17682.1
60°	6731.9	6748.8	7557.8	9308.9	12004.2	15517.0	19255.7	20362.6	21847.5	22783.3	19511.3
62.5°	3996.5	4034.5	4645.0	6049.6	8916.0	13996.1	20662.5	25379.3	24103.5	25345.5	22439.0
65°	2600.2	2631.9	2997.4	3702.9	5268.1	10183.4	20199.9	30237.6	28372.4	29375.8	26646.7
67.5°	2002.5	2027.8	2315.1	2741.8	3231.8	5504.7	16150.7	31255.7	33568.7	33881.3	30197.5
69°	1759.5	1780.7	1991.9	2401.7	2720.6	3643.7	12035.9	29407.5	34867.8	35038.9	30241.8
70°	1630.7	1647.6	1846.2	2201.0	2498.9	2908.6	9211.7	27261.4	34392.5	34829.7	29369.4
72.5°	1343.4	1358.2	1499.7	1772.2	2042.6	2072.2	4081.0	19906.3	28959.7	30358.0	24853.3
75°	1121.6	1130.1	1223.0	1421.6	1653.9	1649.7	2084.8	11275.5	17671.5	19338.1	15345.9
77.5°	935.7	942.1	1003.3	1125.9	1305.4	1299.1	1468.0	4866.7	7802.8	7528.2	5282.9
80°	825.9	830.1	861.8	893.5	1007.6	1001.2	1087.8	2234.8	3174.8	2934.0	1998.2
82.5°	627.4	635.8	796.3	811.1	781.6	754.1	758.3	1301.2	1626.5	1480.7	1073.0
85°	354.9	357.0	511.2	597.8	680.2	511.2	492.2	671.7	802.7	703.4	468.9
87.5°	158.4	164.8	245.0	283.0	367.5	299.9	280.9	285.2	346.4	287.3	185.9
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°	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9	4530.9
2.5°	4497.1	4461.2	4376.7	4290.1	4203.5	4148.6	4091.5	4038.7	4017.6	4015.5	3975.4
5°	4516.1	4431.6	4239.4	4028.2	3827.5	3671.2	3540.2	3455.7	3373.3	3358.6	3322.7
7.5°	4522.4	4385.1	4072.5	3734.5	3428.3	3212.8	3081.8	3024.8	2984.7	2974.1	2961.4
10°	4520.3	4326.0	3886.6	3424.0	3075.5	2912.9	2864.3	2877.0	2893.9	2902.3	2902.3
12.5°	4554.1	4298.5	3700.8	3132.5	2847.4	2769.2	2807.2	2872.7	2923.4	2944.5	2948.8
15°	4615.4	4281.6	3495.9	2879.1	2686.8	2705.9	2798.8	2893.9	2965.7	2997.4	3005.8
17.5°	4691.4	4258.4	3259.3	2669.9	2593.9	2659.4	2779.8	2900.2	2986.8	3026.9	3033.3
20°	4775.9	4224.6	3014.3	2513.6	2511.5	2593.9	2714.3	2849.5	2942.4	2986.8	2984.7
22.5°	4890.0	4192.9	2786.1	2399.6	2420.7	2496.7	2596.0	2718.5	2805.1	2845.3	2836.8
25°	5042.1	4163.3	2581.2	2298.2	2317.2	2367.9	2437.6	2530.5	2591.8	2612.9	2598.1
27.5°	5247.0	4140.1	2420.7	2205.2	2203.1	2226.4	2268.6	2319.3	2348.9	2342.5	2319.3
30°	5498.3	4116.9	2302.4	2122.9	2093.3	2091.2	2110.2	2139.8	2158.8	2120.8	2101.7
32.5°	5779.3	4076.7	2196.8	2051.0	1998.2	1979.2	1987.7	2027.8	2106.0	2067.9	2053.2
35°	6110.9	4030.3	2091.2	1972.9	1932.8	1896.8	1903.2	1989.8	2226.4	2198.9	2184.1
37.5°	6510.1	3988.0	1994.0	1888.4	1886.3	1841.9	1837.7	1941.2	2258.1	2198.9	2186.2
40°	6989.6	3979.6	1907.4	1795.5	1829.3	1812.4	1797.6	1860.9	2082.7	1962.3	1939.1
42.5°	7568.4	4017.6	1844.0	1706.7	1763.8	1803.9	1776.4	1791.2	1882.1	1774.3	1755.3
45°	8244.3	4121.1	1797.6	1628.6	1694.1	1797.6	1765.9	1753.2	1768.0	1708.9	1696.2
47.5°	9032.2	4304.9	1765.9	1563.1	1628.6	1780.7	1761.7	1736.3	1730.0	1696.2	1687.7
50°	9875.0	4552.0	1744.8	1504.0	1569.4	1751.1	1759.5	1723.6	1713.1	1698.3	1694.1
52.5°	10711.5	4820.3	1719.4	1453.3	1520.9	1715.2	1761.7	1711.0	1696.2	1687.7	1683.5
55°	11543.7	5099.1	1672.9	1408.9	1484.9	1672.9	1759.5	1694.1	1677.2	1677.2	1677.2
57.5°	12623.1	5523.7	1611.7	1373.0	1438.5	1618.0	1732.1	1675.1	1651.8	1653.9	1656.0
60°	14182.0	6235.5	1544.1	1332.9	1377.2	1554.7	1689.8	1641.3	1613.8	1622.2	1624.4
62.5°	16786.5	7479.7	1451.2	1275.8	1313.9	1487.1	1634.9	1594.8	1569.4	1584.2	1586.3
65°	20259.1	8985.7	1328.6	1204.0	1248.4	1411.0	1565.2	1539.9	1512.4	1548.3	1546.2
67.5°	22377.7	9427.2	1199.8	1128.0	1185.0	1330.7	1478.6	1468.0	1449.0	1512.4	1508.2
69°	21682.8	8628.8	1125.9	1079.4	1140.6	1275.8	1423.7	1419.5	1404.7	1465.9	1461.7
70°	20603.4	7883.1	1079.4	1047.7	1117.4	1242.0	1387.8	1387.8	1373.0	1425.8	1415.2
72.5°	16549.9	5846.9	971.7	967.4	1037.1	1149.1	1290.6	1301.2	1292.7	1311.7	1301.2
75°	9716.6	3523.3	866.0	878.7	940.0	1049.8	1182.9	1191.3	1182.9	1180.8	1182.9
77.5°	3369.1	1580.0	764.7	783.7	836.5	948.4	1064.6	1081.5	1068.8	1054.0	1058.3
80°	1318.1	918.9	654.8	682.3	726.6	834.4	946.3	956.9	937.9	935.7	918.9
82.5°	792.1	559.8	509.1	553.4	608.3	724.5	817.5	813.2	798.4	885.1	775.2
85°	344.3	310.5	371.8	416.1	443.6	542.9	690.7	671.7	635.8	559.8	547.1
87.5°	139.4	160.5	204.9	247.1	266.1	350.6	473.2	456.3	462.6	380.2	378.1
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)