

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: P196266

Luminaire Tested: **NAV-AF-06-D-UNV-T2**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196266
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-06-D-UNV-T2
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 36068.2 lumens
Efficiency: N/A
Efficacy: 108.3 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): 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

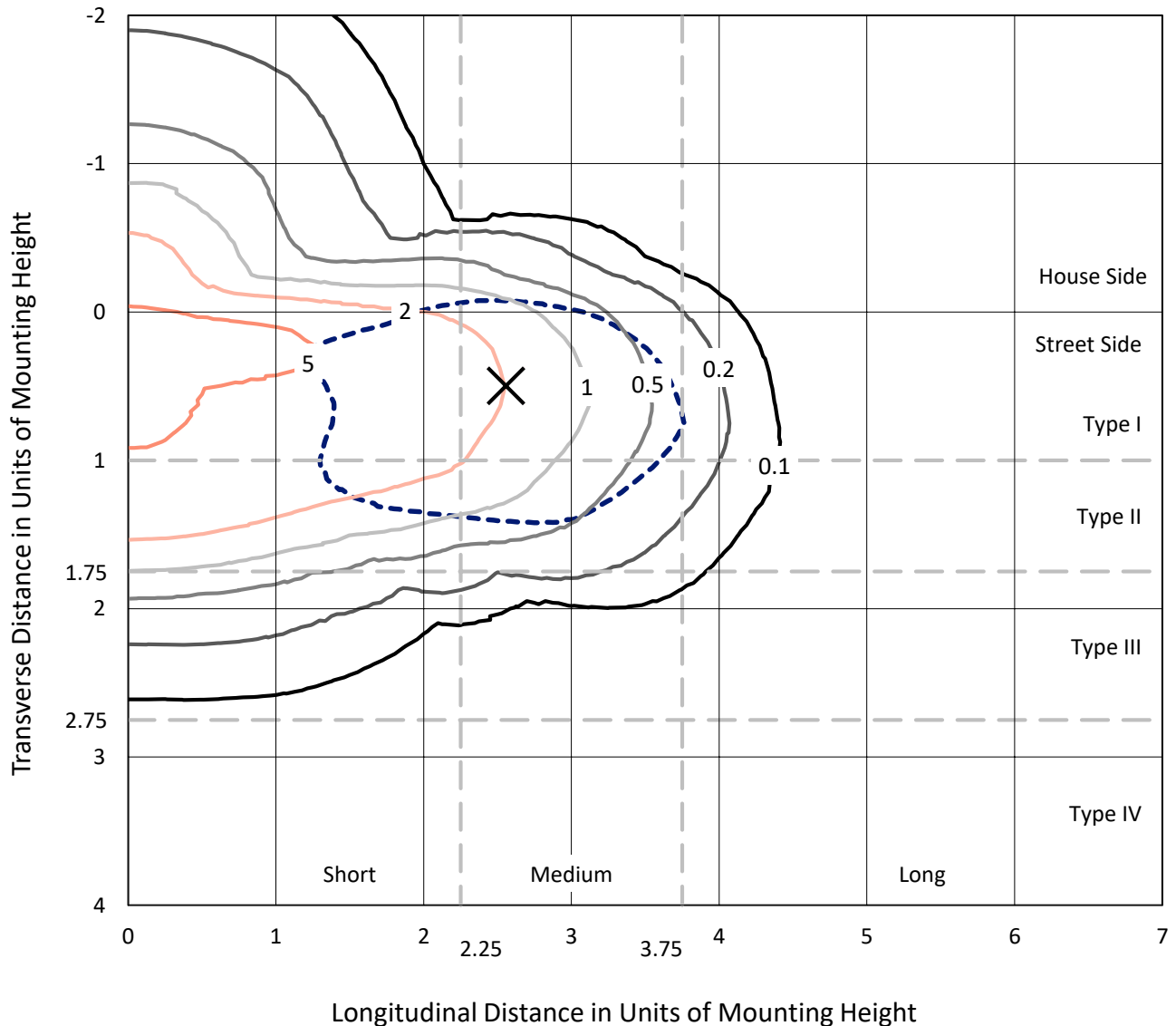


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

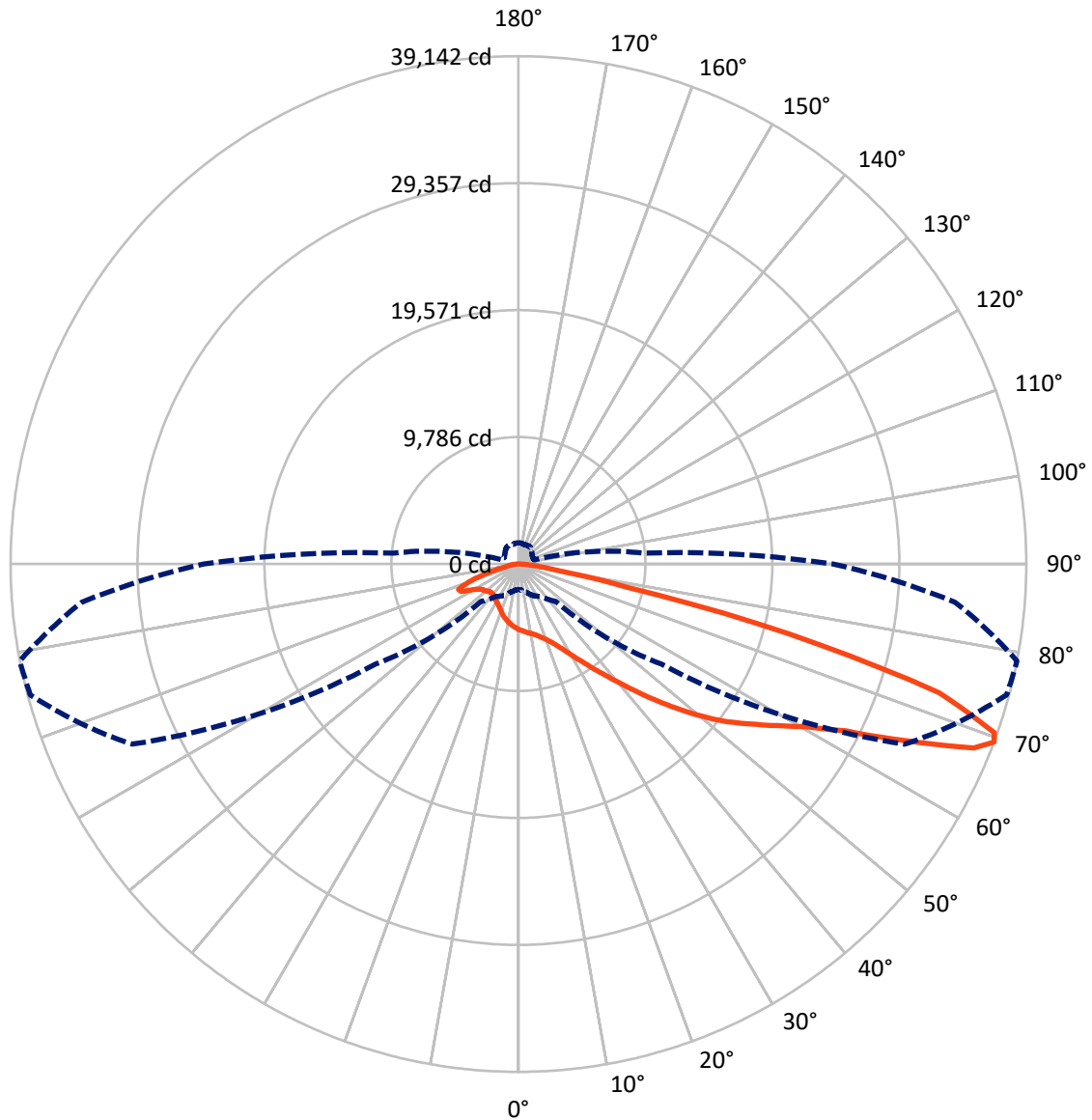


Based on 30 foot mounting height. Maximum calculated value = 6.8 fc
 Type II - Medium - Full Cutoff

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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	6785.1	0.0	6785.1
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	29283.1	0.0	29283.1
	% Fixture	81.2	0.0	81.2
Total	Lumens	36068.2	0.0	36068.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	469.2	1.3
10°-20°	1345.3	3.7
20°-30°	2222.9	6.2
30°-40°	3599.5	10.0
40°-50°	5750.2	15.9
50°-60°	8234.9	22.8
60°-70°	9174.9	25.4
70°-80°	4590.1	12.7
80°-90°	681.2	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°	36068.2	100.0
0°-180°	36068.2	100.0



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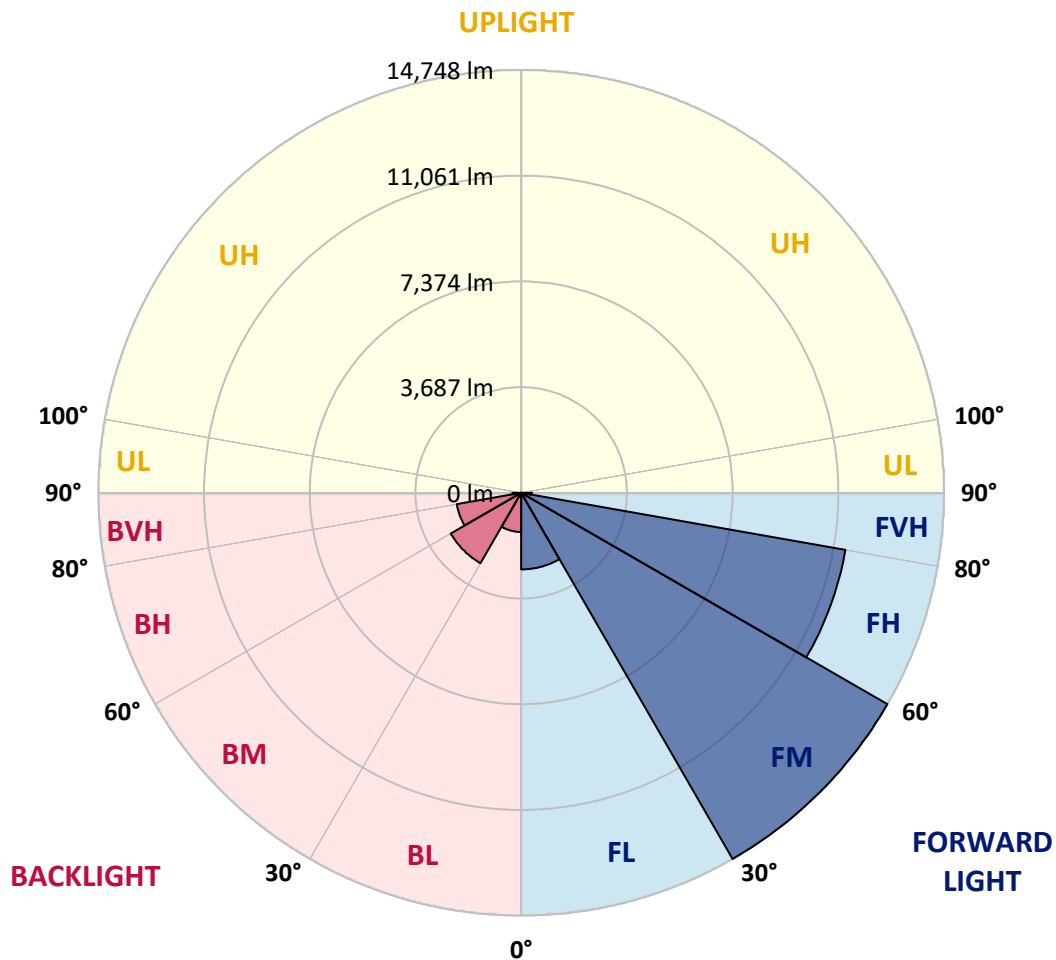
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2670.5	7.4			
FM (30°-60°)	14748.3	40.9			
FH (60°-80°)	11483.6	31.8			G4/12000
FVH (80°-90°)	380.6	1.1			G3/500
BL (0°-30°)	1366.9	3.8	B3/2500		
BM (30°-60°)	2836.3	7.9	B3/5000		
BH (60°-80°)	2281.4	6.3	B3/2500		G3/2500
BVH (80°-90°)	300.6	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°	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6
2.5°	5557.1	5545.2	5542.9	5507.5	5488.6	5448.5	5354.1	5257.4	5167.7	5120.5	5071.0
5°	6021.9	5998.3	5986.5	5927.5	5875.6	5785.9	5637.3	5483.9	5323.4	5240.9	5141.8
7.5°	6302.7	6305.1	6305.1	6257.9	6205.9	6097.4	5908.7	5698.7	5460.3	5351.8	5196.0
10°	6326.3	6328.7	6364.1	6375.8	6387.6	6331.0	6156.4	5892.1	5585.3	5443.7	5240.9
12.5°	6092.7	6109.2	6168.2	6253.2	6373.5	6434.9	6359.4	6099.8	5745.8	5573.5	5325.8
15°	5778.9	5795.3	5870.9	6000.6	6194.2	6399.5	6505.7	6338.1	5955.8	5752.9	5450.9
17.5°	5625.5	5644.3	5696.3	5800.1	5988.9	6265.0	6583.5	6592.9	6203.6	5969.9	5599.5
20°	5552.4	5566.5	5632.6	5717.5	5861.4	6125.7	6590.6	6862.0	6498.6	6227.2	5781.2
22.5°	5719.8	5724.5	5757.6	5804.8	5901.6	6104.5	6585.9	7140.4	6866.7	6550.5	6014.8
25°	6210.6	6180.0	6156.4	6097.4	6121.0	6265.0	6661.4	7437.7	7338.6	6975.2	6326.3
27.5°	6791.2	6786.5	6725.1	6588.2	6501.0	6592.9	6876.1	7770.4	7916.7	7515.6	6734.5
30°	7437.7	7440.0	7376.4	7208.8	7031.9	7041.3	7218.2	8155.1	8608.1	8166.8	7237.2
32.5°	8115.0	8157.4	8039.5	7871.9	7657.2	7588.8	7709.1	8619.9	9408.1	8936.1	7819.9
35°	8924.3	8931.4	8801.6	8556.2	8341.4	8232.9	8343.8	9200.4	10330.7	9839.9	8530.3
37.5°	9764.4	9769.1	9634.6	9320.7	9049.3	8978.5	9101.3	9905.9	11307.6	10868.6	9365.5
40°	10451.0	10500.6	10394.4	10099.4	9825.7	9783.2	9960.2	10750.7	12555.9	12086.3	10359.0
42.5°	11229.7	11286.3	11159.0	10852.2	10635.1	10620.9	10897.0	11713.4	13797.0	13495.0	11484.6
45°	12107.5	12187.7	12010.8	11666.2	11482.2	11793.7	11810.2	12780.0	15227.0	15071.2	12751.7
47.5°	13065.5	13131.6	12987.7	12617.2	12416.7	12867.3	12704.5	13933.9	16772.6	16760.8	14122.7
50°	13804.1	13877.2	13891.5	13728.6	13518.6	13575.3	13686.2	15146.7	18313.5	18497.5	15540.9
52.5°	13669.6	13740.4	14058.9	14486.1	14823.5	14677.2	14811.7	16435.1	19802.4	20191.8	16888.2
55°	12584.1	12621.9	13218.9	14233.5	15670.6	16369.1	16378.6	17836.8	21218.3	21763.3	18167.2
57.5°	10627.9	10632.8	11409.1	12905.0	15177.4	17466.4	18851.4	19597.2	22695.4	23500.0	19752.9
60°	7520.3	7539.1	8442.9	10399.1	13410.1	17334.2	21510.8	22747.3	24406.2	25451.5	21796.3
62.5°	4464.5	4507.0	5188.9	6758.1	9960.2	15635.2	23082.4	28351.6	26926.3	28313.7	25066.9
65°	2904.8	2940.2	3348.4	4136.5	5885.0	11376.0	22565.6	33778.8	31695.2	32816.1	29767.4
67.5°	2237.0	2265.3	2586.2	3062.8	3610.3	6149.4	18042.1	34916.2	37500.0	37849.3	33734.0
69°	1965.6	1989.2	2225.2	2683.0	3039.3	4070.4	13445.5	32851.5	38951.2	39142.4	33783.6
70°	1821.7	1840.6	2062.4	2458.8	2791.5	3249.3	10290.6	30454.1	38420.3	38908.8	32809.0
72.5°	1500.8	1517.2	1675.4	1979.8	2281.8	2314.8	4558.9	22237.6	32351.2	33913.3	27764.0
75°	1253.0	1262.4	1366.3	1588.0	1847.7	1842.9	2329.0	12596.0	19741.1	21602.9	17143.0
77.5°	1045.4	1052.4	1120.8	1257.7	1458.3	1451.2	1640.0	5436.7	8716.7	8409.9	5901.6
80°	922.6	927.3	962.7	998.1	1125.6	1118.5	1215.3	2496.5	3546.6	3277.6	2232.3
82.5°	700.8	710.2	889.6	906.1	873.1	842.4	847.1	1453.6	1817.0	1654.1	1198.7
85°	396.4	398.7	571.0	667.8	759.8	571.0	549.8	750.3	896.7	785.7	523.9
87.5°	177.0	184.0	273.7	316.2	410.6	335.1	313.8	318.5	387.0	320.9	207.7
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°	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6	5061.6
2.5°	5023.7	4983.6	4889.3	4792.5	4695.8	4634.4	4570.7	4511.7	4488.1	4485.7	4440.9
5°	5045.0	4950.6	4735.9	4499.9	4275.7	4101.1	3954.8	3860.4	3768.4	3751.9	3711.8
7.5°	5052.0	4898.7	4549.5	4171.9	3829.7	3589.0	3442.7	3379.0	3334.2	3322.4	3308.2
10°	5049.7	4832.6	4341.8	3825.0	3435.7	3254.0	3199.7	3213.9	3232.7	3242.2	3242.2
12.5°	5087.4	4801.9	4134.2	3499.4	3180.9	3093.5	3136.1	3209.2	3265.8	3289.4	3294.1
15°	5155.9	4783.1	3905.3	3216.3	3001.5	3022.7	3126.5	3232.7	3313.0	3348.4	3357.8
17.5°	5240.9	4757.1	3641.0	2982.6	2897.7	2970.9	3105.4	3239.9	3336.6	3381.5	3388.5
20°	5335.2	4719.4	3367.2	2808.0	2805.6	2897.7	3032.2	3183.2	3287.0	3336.6	3334.2
22.5°	5462.7	4684.0	3112.4	2680.6	2704.2	2789.2	2900.1	3036.9	3133.6	3178.5	3169.0
25°	5632.6	4650.9	2883.5	2567.3	2588.6	2645.2	2723.1	2826.9	2895.4	2918.9	2902.4
27.5°	5861.4	4625.0	2704.2	2463.5	2461.1	2487.1	2534.3	2590.9	2624.0	2616.9	2590.9
30°	6142.2	4599.0	2572.0	2371.5	2338.5	2336.1	2357.3	2390.3	2411.6	2369.2	2347.9
32.5°	6456.0	4554.2	2454.1	2291.2	2232.3	2211.0	2220.4	2265.3	2352.6	2310.1	2293.6
35°	6826.6	4502.3	2336.1	2203.9	2159.1	2119.0	2126.1	2222.8	2487.1	2456.4	2439.9
37.5°	7272.6	4455.1	2227.6	2109.5	2107.2	2057.7	2053.0	2168.6	2522.5	2456.4	2442.3
40°	7808.2	4445.6	2130.8	2005.7	2043.4	2024.6	2008.1	2078.8	2326.6	2192.2	2166.2
42.5°	8454.7	4488.1	2060.0	1906.6	1970.3	2015.2	1984.5	2001.0	2102.5	1982.2	1960.9
45°	9209.8	4603.7	2008.1	1819.3	1892.5	2008.1	1972.7	1958.5	1975.0	1909.0	1894.8
47.5°	10090.0	4809.0	1972.7	1746.2	1819.3	1989.2	1968.0	1939.6	1932.6	1894.8	1885.4
50°	11031.5	5085.1	1949.1	1680.1	1753.2	1956.2	1965.6	1925.5	1913.7	1897.2	1892.5
52.5°	11966.0	5384.8	1920.8	1623.4	1699.0	1916.1	1968.0	1911.4	1894.8	1885.4	1880.7
55°	12895.6	5696.3	1868.8	1573.9	1658.8	1868.8	1965.6	1892.5	1873.5	1873.5	1873.5
57.5°	14101.5	6170.5	1800.4	1533.8	1607.0	1807.6	1934.9	1871.2	1845.3	1847.7	1850.0
60°	15842.8	6965.8	1724.9	1489.0	1538.5	1736.8	1887.8	1833.4	1802.7	1812.3	1814.6
62.5°	18752.3	8355.7	1621.1	1425.3	1467.7	1661.2	1826.4	1781.6	1753.2	1769.8	1772.2
65°	22631.7	10038.1	1484.2	1345.0	1394.6	1576.3	1748.5	1720.2	1689.5	1729.6	1727.3
67.5°	24998.5	10531.3	1340.3	1260.1	1323.8	1486.6	1651.8	1640.0	1618.7	1689.5	1684.8
69°	24222.1	9639.3	1257.7	1205.8	1274.2	1425.3	1590.4	1585.7	1569.2	1637.6	1632.9
70°	23016.3	8806.3	1205.8	1170.4	1248.3	1387.5	1550.3	1550.3	1533.8	1592.7	1581.0
72.5°	18488.1	6531.5	1085.5	1080.7	1158.6	1283.7	1441.7	1453.6	1444.1	1465.4	1453.6
75°	10854.5	3935.9	967.5	981.6	1050.1	1172.7	1321.4	1330.9	1321.4	1319.1	1321.4
77.5°	3763.6	1765.0	854.2	875.4	934.5	1059.5	1189.3	1208.1	1194.0	1177.5	1182.2
80°	1472.4	1026.4	731.5	762.2	811.7	932.1	1057.1	1069.0	1047.7	1045.4	1026.4
82.5°	884.9	625.3	568.7	618.3	679.5	809.4	913.2	908.5	891.9	988.7	866.0
85°	384.6	346.9	415.3	464.8	495.5	606.4	771.6	750.3	710.2	625.3	611.1
87.5°	155.7	179.3	228.9	276.1	297.3	391.7	528.6	509.7	516.8	424.7	422.4
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)