

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: P196344

Luminaire Tested: **NAV-AF-06-D-UNV-T3R-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196344
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 41114.4 lumens
Efficiency: N/A
Efficacy: 107.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B3 - U0 - G5

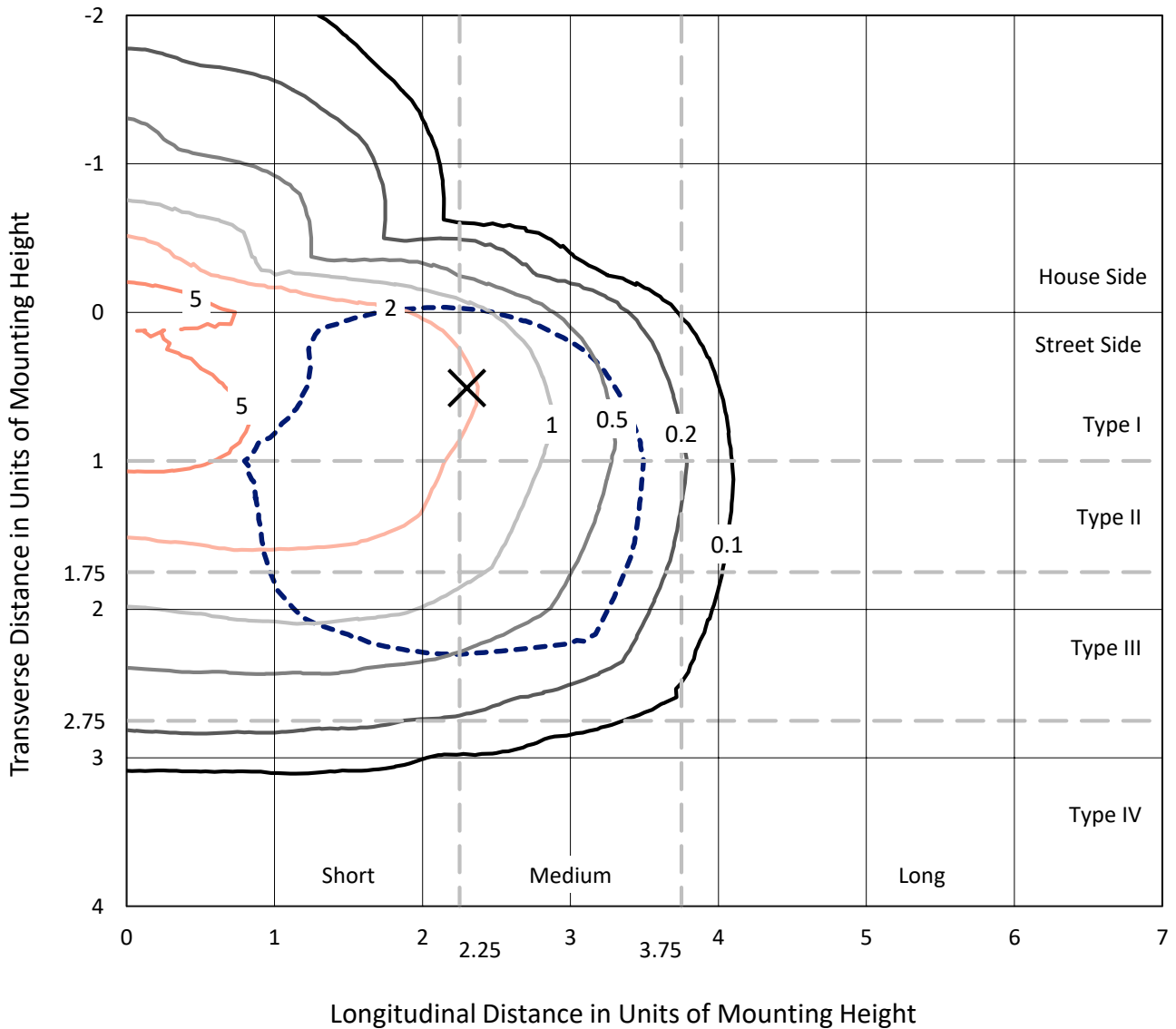
Input Watts (W): 382
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

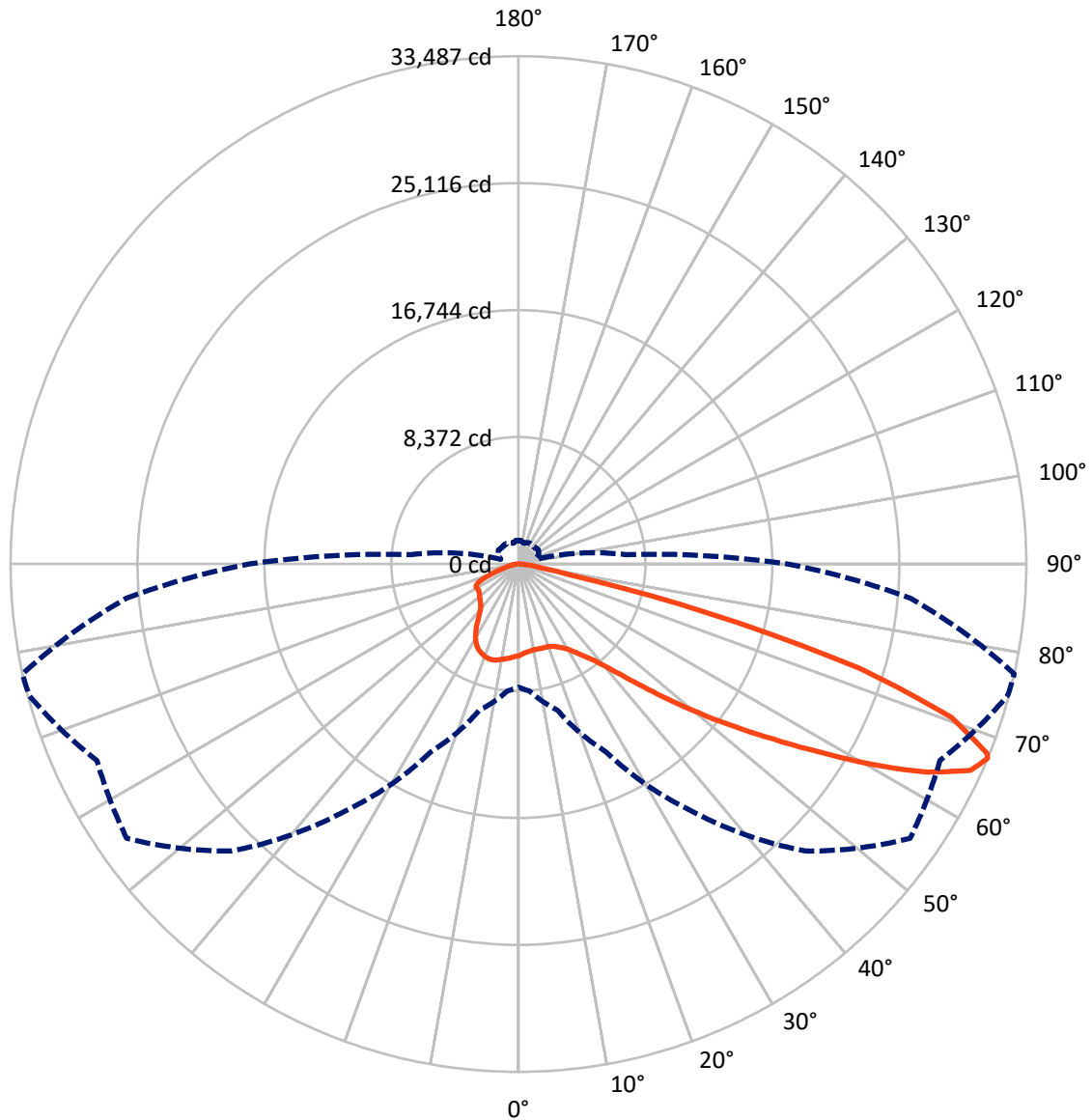
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 8.1 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7065.5	0.0	7065.5
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	34048.9	0.0	34048.9
	% Fixture	82.8	0.0	82.8
Total	Lumens	41114.4	0.0	41114.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	538.9	1.3
10°-20°	1492.5	3.6
20°-30°	2535.9	6.2
30°-40°	4056.8	9.9
40°-50°	6245.5	15.2
50°-60°	8665.0	21.1
60°-70°	11558.5	28.1
70°-80°	5500.7	13.4
80°-90°	520.8	1.3
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°	41114.4	100.0
0°-180°	41114.4	100.0



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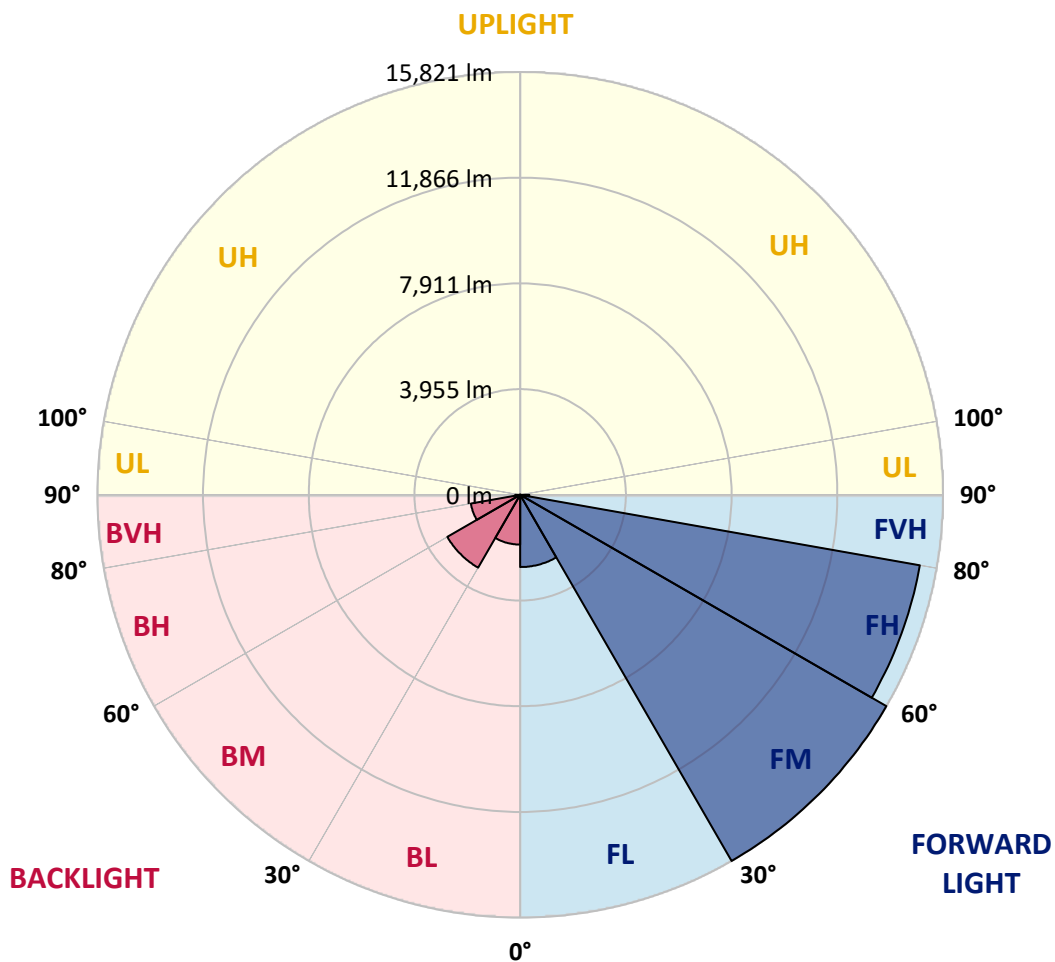
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2703.7	6.6			
FM	(30°-60°)	15821.3	38.5			
FH	(60°-80°)	15185.7	36.9			G5
FVH	(80°-90°)	338.3	0.8			G3/500
BL	(0°-30°)	1863.6	4.5	B3/2500		
BM	(30°-60°)	3146.0	7.7	B3/5000		
BH	(60°-80°)	1873.4	4.6	B3/2500		G3/2500
BVH	(80°-90°)	182.6	0.4			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0
2.5°	5425.8	5451.2	5453.8	5527.4	5560.5	5644.3	5735.8	5817.1	5888.3	5913.8	5959.5
5°	4881.9	4881.9	4889.6	4937.9	5031.9	5166.6	5357.2	5565.6	5784.2	5837.5	5972.2
7.5°	4597.3	4602.4	4607.5	4655.8	4729.5	4848.9	5039.5	5324.2	5687.5	5776.5	6012.8
10°	4622.7	4615.1	4589.7	4579.5	4610.0	4686.2	4851.4	5143.7	5606.2	5743.5	6086.6
12.5°	5021.7	5006.4	4922.6	4800.6	4688.8	4660.9	4775.2	5052.3	5568.1	5743.5	6211.1
15°	5705.3	5715.5	5550.3	5296.2	5004.0	4805.7	4790.5	5019.2	5555.4	5758.7	6355.9
17.5°	6594.9	6599.9	6371.1	6002.7	5517.3	5108.1	4894.6	5019.2	5555.4	5773.9	6495.7
20°	7540.2	7504.6	7245.4	6782.9	6152.6	5527.4	5085.3	5049.7	5570.7	5796.9	6627.9
22.5°	8350.9	8317.8	8045.9	7560.5	6838.8	6023.0	5342.0	5151.4	5654.5	5890.9	6813.4
25°	9060.0	9080.2	8816.0	8269.5	7522.4	6582.1	5725.7	5385.1	5829.9	6061.1	7042.1
27.5°	9921.5	9883.3	9578.4	9057.4	8226.4	7161.6	6206.0	5679.9	6038.3	6267.0	7321.7
30°	10917.6	10899.8	10488.2	9952.0	9001.5	7809.6	6681.2	5997.6	6310.2	6549.0	7672.3
32.5°	12127.4	12124.8	11682.6	11024.4	9873.1	8541.5	7242.9	6432.2	6706.7	6948.1	8137.4
35°	13497.1	13494.6	13037.1	12168.0	10877.0	9352.2	7903.6	6960.8	7197.1	7451.3	8691.4
37.5°	14447.6	14432.3	14193.4	13349.7	11987.6	10295.0	8729.6	7672.3	7753.7	8038.3	9359.8
40°	14630.5	14722.1	14927.9	14429.8	13199.7	11342.1	9558.0	8437.3	8513.5	8879.5	10201.0
42.5°	14432.3	14551.8	15235.4	15375.2	14412.0	12610.2	10594.9	9497.1	9593.6	10048.5	11189.5
45°	14259.5	14363.8	15220.2	15898.7	15609.0	13992.7	11888.4	10790.6	10973.6	11537.8	12318.0
47.5°	13964.7	14061.3	14920.2	15992.7	16292.6	15324.4	13446.3	12345.9	12661.1	13344.7	13603.9
50°	13949.5	13992.7	14511.2	15677.6	16528.9	16335.8	15171.9	14165.5	14648.3	15436.2	15027.0
52.5°	13563.2	13865.6	14335.7	15174.5	16534.1	16925.4	16872.0	16160.5	16905.1	17776.7	16587.5
55°	11199.8	11547.9	13751.2	14927.9	16503.6	17431.2	18424.8	18282.5	19446.4	20363.9	18335.9
57.5°	10457.6	10605.0	12063.8	15001.6	16757.7	18267.2	19977.6	20562.1	22353.7	23355.1	20432.5
60°	10254.4	10409.3	11725.8	15037.2	17446.4	19789.5	22084.4	23136.5	25771.9	26834.1	22813.7
62.5°	10028.2	10229.0	11751.2	15070.2	18656.1	22041.2	24879.9	25929.5	29281.5	30229.4	25045.0
65°	9367.5	9634.3	11281.1	14861.8	19980.2	24867.1	28575.0	28841.8	32181.2	32783.4	26391.9
67°	8114.6	8406.8	9990.0	13657.2	19858.1	26770.6	31530.6	30664.0	33413.8	33487.4	25954.8
67.5°	7718.1	8020.5	9552.9	13156.6	19510.0	27019.7	32054.1	30915.6	33403.5	33322.2	25548.2
70°	5197.1	5537.6	6765.1	9659.7	15649.6	25146.7	31927.0	30140.4	31212.9	30280.3	21949.7
72.5°	2579.5	2589.6	3374.9	5291.1	9481.8	18036.0	26633.4	25784.6	25301.8	23540.6	16107.1
75°	1242.7	1265.6	1593.5	2338.1	3997.6	9311.5	18163.1	17398.1	14813.6	12826.2	8061.2
77.5°	948.0	970.8	1237.7	1522.3	1667.1	3036.9	8996.4	7270.8	4292.3	3428.3	2272.0
80°	731.9	775.1	1044.5	1169.0	1102.9	1217.3	2828.6	2226.2	1669.7	1532.5	1125.9
82.5°	571.8	597.2	886.9	886.9	762.4	815.8	1316.4	1286.0	1036.9	935.2	604.9
85°	404.1	454.9	714.1	660.7	500.6	505.7	787.8	754.7	533.7	429.5	236.3
87.5°	180.4	231.3	508.3	432.0	266.9	205.8	322.7	277.0	210.9	162.6	109.3
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°	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0	6051.0
2.5°	6010.3	6051.0	6114.5	6152.6	6203.5	6223.7	6244.1	6279.7	6307.6	6300.0	6287.3
5°	6066.2	6134.8	6213.6	6239.0	6239.0	6213.6	6198.4	6200.9	6193.3	6188.2	6173.0
7.5°	6147.5	6241.5	6297.5	6272.0	6193.3	6094.1	6000.1	5944.3	5890.9	5857.8	5868.0
10°	6261.9	6366.1	6368.6	6256.8	6068.8	5852.7	5667.2	5547.8	5433.4	5382.6	5397.8
12.5°	6427.1	6531.2	6442.3	6200.9	5870.5	5532.5	5192.0	4945.5	4724.4	4671.0	4655.8
15°	6605.0	6686.3	6488.1	6081.4	5585.9	5029.3	4457.5	4089.0	3842.5	3799.3	3784.1
17.5°	6760.0	6805.8	6465.3	5868.0	5136.0	4259.3	3593.5	3344.4	3293.6	3319.0	3319.0
20°	6897.2	6882.0	6366.1	5537.6	4427.0	3405.4	3019.1	3016.6	3085.2	3148.7	3153.9
22.5°	7070.0	6950.6	6208.5	5047.1	3580.7	2841.2	2775.2	2841.2	2917.5	2988.7	2996.2
25°	7275.9	7026.9	5997.6	4348.3	2879.4	2579.5	2607.4	2663.4	2711.6	2767.5	2770.0
27.5°	7481.8	7085.3	5700.3	3527.4	2498.1	2411.7	2442.2	2465.1	2477.8	2513.4	2513.4
30°	7720.6	7131.0	5270.8	2826.0	2322.8	2264.3	2246.6	2236.4	2246.6	2294.9	2297.3
32.5°	8020.5	7212.3	4683.7	2424.5	2241.5	2160.2	2068.7	2017.9	2053.4	2139.8	2155.1
35°	8361.1	7309.0	3979.8	2264.3	2213.6	2109.3	1941.6	1862.8	1875.5	1954.3	1967.0
37.5°	8788.0	7433.5	3285.9	2226.2	2241.5	2104.2	1883.2	1771.3	1715.4	1717.9	1715.4
40°	9334.4	7558.0	2737.0	2236.4	2302.5	2117.0	1855.2	1679.8	1563.0	1568.0	1578.2
42.5°	9906.2	7639.3	2388.9	2266.9	2376.2	2134.7	1845.0	1590.9	1489.2	1575.7	1654.4
45°	10574.5	7616.5	2208.4	2294.9	2432.1	2142.4	1806.9	1580.8	1496.9	1756.1	1903.5
47.5°	11342.1	7517.4	2106.8	2307.6	2447.3	2139.8	1778.9	1613.8	1560.4	2010.2	2178.0
50°	12175.7	7362.3	2025.4	2287.2	2439.7	2129.7	1809.4	1654.4	1585.8	2066.2	2195.8
52.5°	13087.9	7220.0	1941.6	2241.5	2401.6	2099.2	1847.6	1636.6	1514.7	1903.5	2002.6
55°	14168.1	7186.9	1847.6	2162.7	2338.1	2066.2	1827.2	1580.8	1435.9	1687.5	1748.4
57.5°	15403.2	7392.8	1725.6	2066.2	2251.6	2000.1	1778.9	1550.2	1407.9	1534.9	1568.0
60°	16971.2	7847.7	1596.0	1964.5	2144.9	1900.9	1735.7	1557.9	1415.6	1512.1	1519.7
62.5°	18196.1	8256.8	1479.1	1840.0	2002.6	1781.5	1690.0	1565.5	1438.4	1542.6	1529.9
65°	18640.8	8056.0	1334.2	1654.4	1801.8	1649.3	1626.5	1570.5	1438.4	1560.4	1532.5
67°	17728.5	7098.1	1197.0	1468.9	1611.2	1532.5	1565.5	1550.2	1413.0	1557.9	1509.6
67.5°	17293.9	6760.0	1161.4	1438.4	1560.4	1496.9	1550.2	1540.1	1405.3	1552.7	1496.9
70°	14262.1	4848.9	981.0	1207.2	1306.2	1319.0	1456.2	1474.0	1344.4	1458.7	1357.0
72.5°	10147.7	3034.4	846.3	935.2	1054.7	1128.3	1329.1	1385.1	1263.0	1268.2	1184.3
75°	5021.7	1629.0	754.7	721.8	820.8	940.3	1158.9	1263.0	1143.7	1057.2	1029.3
77.5°	1695.1	922.5	637.9	582.0	637.9	754.7	960.7	1102.9	1008.9	894.6	876.8
80°	876.8	671.0	498.1	467.6	503.2	584.5	752.3	917.4	861.5	866.6	714.1
82.5°	546.4	409.2	358.3	355.8	381.3	447.2	554.0	744.6	739.5	632.8	460.0
85°	254.1	236.3	228.7	236.3	244.0	254.1	360.9	531.1	561.6	340.5	302.4
87.5°	106.7	104.2	91.5	99.1	109.3	106.7	144.8	226.2	315.2	213.5	195.7
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)