

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: P196265

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196265  
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  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 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: 30108.5 lumens  
Efficiency: N/A  
Efficacy: 107.9 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): 279  
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

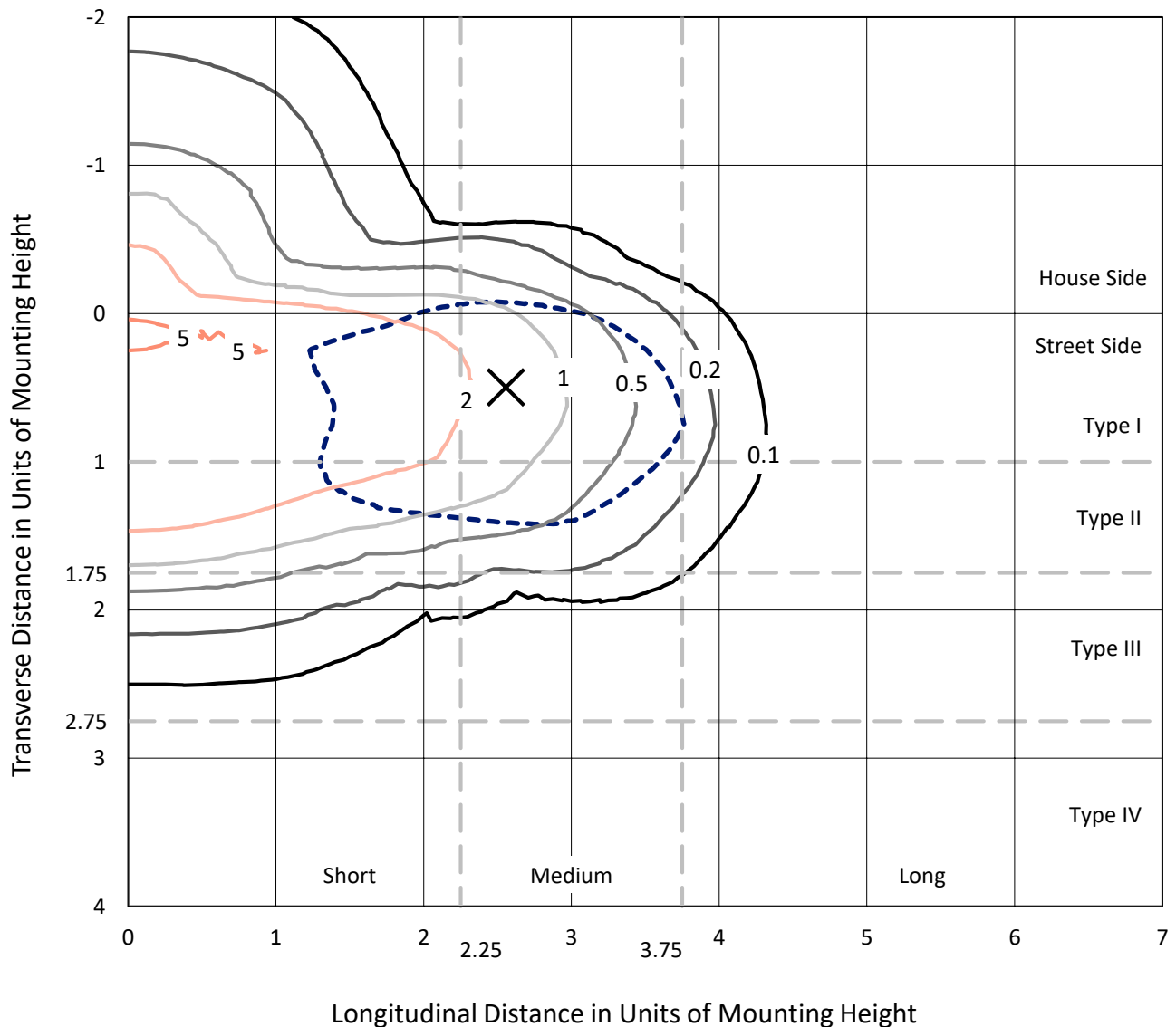


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### Iso-Footcandle Lines of Horizontal Illumination

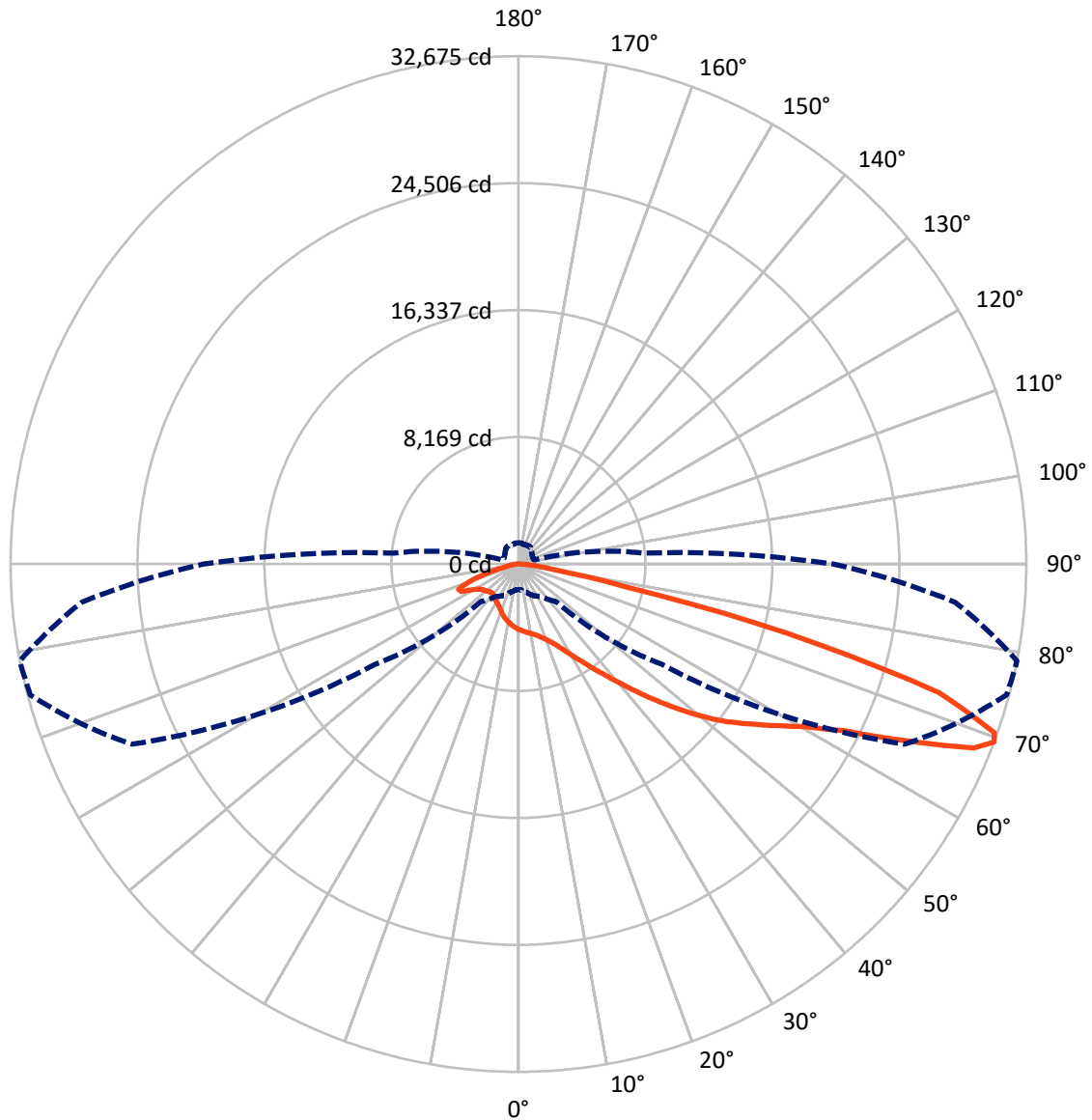
× Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.7 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
<b>House Side</b>	Lumens	5664.0	0.0	5664.0
	% Fixture	18.8	0.0	18.8
<b>Street Side</b>	Lumens	24444.6	0.0	24444.6
	% Fixture	81.2	0.0	81.2
<b>Total</b>	Lumens	30108.5	0.0	30108.5
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	391.7	1.3
10°-20°	1123.0	3.7
20°-30°	1855.6	6.2
30°-40°	3004.8	10.0
40°-50°	4800.1	15.9
50°-60°	6874.2	22.8
60°-70°	7658.9	25.4
70°-80°	3831.6	12.7
80°-90°	568.6	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°	30108.5	100.0
0°-180°	30108.5	100.0



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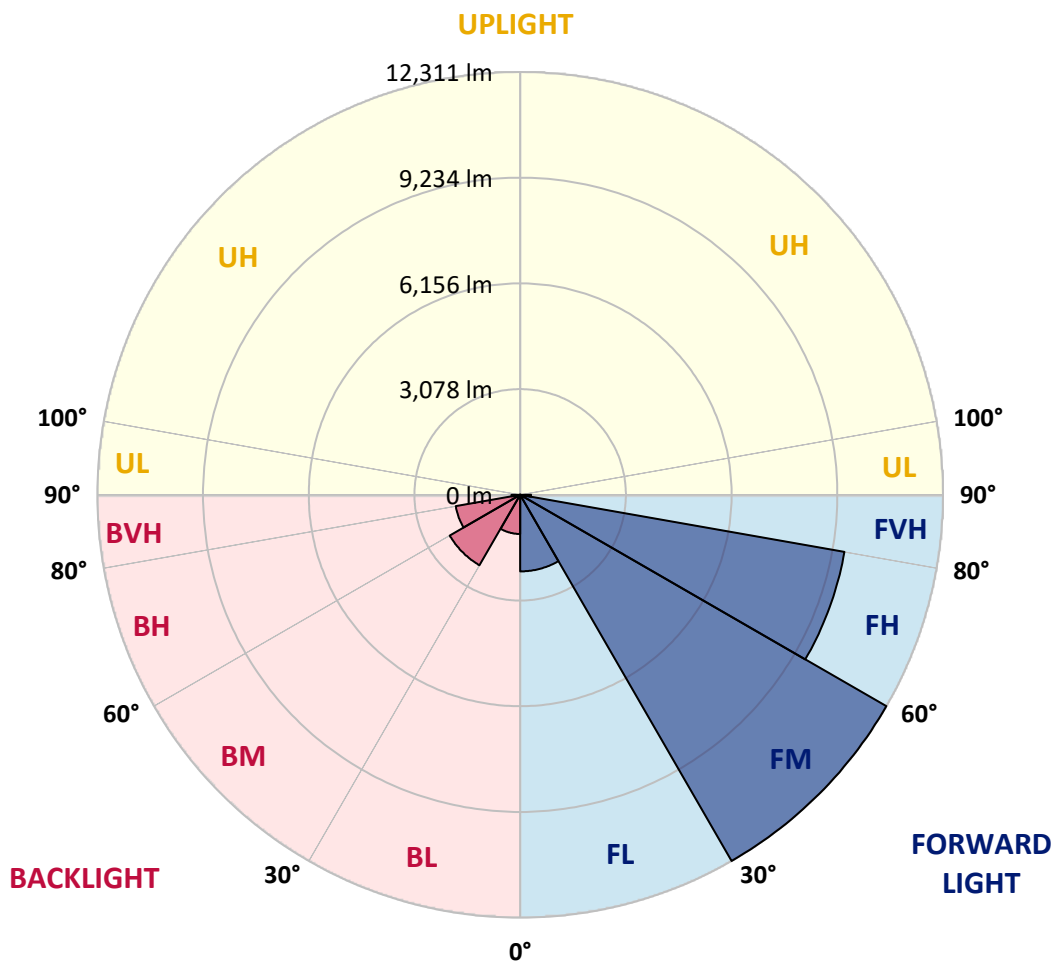
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2229.3	7.4			
FM	(30°-60°)	12311.4	40.9			
FH	(60°-80°)	9586.1	31.8			G4/12000
FVH	(80°-90°)	317.7	1.1			G3/500
BL	(0°-30°)	1141.0	3.8	B3/2500		
BM	(30°-60°)	2367.6	7.9	B2/2500		
BH	(60°-80°)	1904.4	6.3	B3/2500		G3/2500
BVH	(80°-90°)	250.9	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°	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2
2.5°	4638.9	4629.0	4627.0	4597.4	4581.7	4548.2	4469.5	4388.7	4313.8	4274.4	4233.1
5°	5026.9	5007.1	4997.3	4948.1	4904.7	4829.9	4705.8	4577.8	4443.8	4374.9	4292.1
7.5°	5261.2	5263.3	5263.3	5223.9	5180.5	5089.9	4932.4	4757.0	4558.1	4467.4	4337.4
10°	5281.0	5282.9	5312.5	5322.3	5332.2	5284.9	5139.2	4918.6	4662.5	4544.3	4374.9
12.5°	5086.0	5099.7	5149.0	5219.9	5320.4	5371.6	5308.6	5091.8	4796.4	4652.6	4445.7
15°	4824.0	4837.7	4900.9	5009.2	5170.7	5342.1	5430.6	5290.8	4971.7	4802.3	4550.2
17.5°	4696.0	4711.7	4755.1	4841.7	4999.3	5229.7	5495.7	5503.6	5178.6	4983.5	4674.3
20°	4634.9	4646.8	4701.9	4772.8	4893.0	5113.5	5501.6	5728.1	5424.8	5198.2	4826.0
22.5°	4774.7	4778.7	4806.2	4845.6	4926.4	5095.8	5497.6	5960.5	5732.1	5468.1	5020.9
25°	5184.4	5158.8	5139.2	5089.9	5109.6	5229.7	5560.7	6208.7	6126.0	5822.6	5281.0
27.5°	5669.0	5665.1	5613.9	5499.6	5426.8	5503.6	5740.0	6486.5	6608.6	6273.8	5621.7
30°	6208.7	6210.7	6157.6	6017.7	5869.9	5877.8	6025.6	6807.5	7185.7	6817.5	6041.3
32.5°	6774.1	6809.5	6711.1	6571.2	6391.9	6334.8	6435.3	7195.6	7853.5	7459.6	6527.9
35°	7449.7	7455.6	7347.2	7142.4	6963.1	6872.6	6965.2	7680.2	8623.7	8214.0	7120.8
37.5°	8151.0	8154.9	8042.6	7780.7	7554.1	7495.1	7597.5	8269.1	9439.2	9072.8	7818.0
40°	8724.1	8765.6	8676.9	8430.6	8202.1	8166.7	8314.4	8974.3	10481.2	10089.2	8647.3
42.5°	9374.2	9421.5	9315.1	9059.0	8877.8	8866.0	9096.5	9778.0	11517.3	11265.1	9586.9
45°	10107.0	10173.9	10026.1	9738.6	9584.9	9845.0	9858.8	10668.4	12711.0	12581.0	10644.7
47.5°	10906.7	10961.8	10841.6	10532.4	10364.9	10741.2	10605.3	11631.6	14001.2	13991.3	11789.1
50°	11523.2	11584.3	11596.1	11460.2	11284.9	11332.1	11424.7	12644.0	15287.5	15441.1	12973.0
52.5°	11410.9	11470.0	11735.9	12092.5	12374.1	12252.0	12364.3	13719.5	16530.4	16855.4	14097.7
55°	10504.8	10536.4	11034.7	11881.7	13081.3	13664.4	13672.2	14889.6	17712.3	18167.3	15165.3
57.5°	8871.8	8875.8	9523.9	10772.7	12669.7	14580.3	15736.6	16359.0	18945.4	19617.0	16489.0
60°	6277.6	6293.4	7047.8	8680.9	11194.3	14469.9	17956.5	18988.6	20373.4	21246.1	18194.8
62.5°	3726.8	3762.3	4331.6	5641.5	8314.4	13051.7	19268.4	23666.9	22477.2	23635.4	20925.0
65°	2424.8	2454.4	2795.1	3453.1	4912.6	9496.3	18837.0	28197.4	26458.1	27393.7	24848.8
67.5°	1867.4	1891.0	2158.8	2556.8	3013.7	5133.3	15060.9	29146.8	31303.7	31595.3	28160.0
69°	1640.8	1660.6	1857.5	2239.6	2537.1	3397.8	11223.8	27423.3	32515.1	32674.7	28201.3
70°	1520.7	1536.5	1721.6	2052.6	2330.3	2712.4	8590.2	25422.0	32072.0	32479.7	27387.8
72.5°	1252.8	1266.6	1398.6	1652.7	1904.7	1932.4	3805.6	18563.2	27005.7	28309.7	23176.4
75°	1046.0	1053.8	1140.5	1325.6	1542.3	1538.4	1944.2	10514.7	16479.1	18033.3	14310.5
77.5°	872.6	878.5	935.7	1049.9	1217.3	1211.4	1369.0	4538.3	7276.4	7020.3	4926.4
80°	770.2	774.2	803.6	833.2	939.6	933.6	1014.5	2084.1	2960.6	2736.0	1863.4
82.5°	585.0	592.9	742.6	756.4	728.9	703.2	707.2	1213.4	1516.7	1380.8	1000.7
85°	330.9	332.9	476.7	557.4	634.2	476.7	459.0	626.4	748.5	655.9	437.3
87.5°	147.7	153.6	228.5	263.9	342.8	279.7	262.0	266.0	323.0	267.9	173.4
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°	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2	4225.2
2.5°	4193.7	4160.1	4081.4	4000.7	3919.8	3868.6	3815.5	3766.2	3746.6	3744.5	3707.2
5°	4211.4	4132.6	3953.3	3756.4	3569.3	3423.5	3301.4	3222.6	3145.8	3132.0	3098.4
7.5°	4217.3	4089.2	3797.7	3482.5	3196.9	2996.0	2873.9	2820.7	2783.3	2773.4	2761.7
10°	4215.4	4034.1	3624.4	3193.0	2868.0	2716.3	2671.0	2682.8	2698.6	2706.5	2706.5
12.5°	4246.9	4008.5	3451.0	2921.1	2655.3	2582.3	2617.8	2678.9	2726.2	2745.9	2749.8
15°	4304.0	3992.8	3259.9	2684.8	2505.5	2523.3	2610.0	2698.6	2765.5	2795.1	2803.0
17.5°	4374.9	3971.1	3039.4	2489.8	2418.9	2479.9	2592.3	2704.5	2785.3	2822.7	2828.6
20°	4453.6	3939.6	2810.9	2344.0	2342.0	2418.9	2531.2	2657.2	2743.9	2785.3	2783.3
22.5°	4560.0	3910.0	2598.1	2237.7	2257.3	2328.2	2420.8	2535.1	2615.9	2653.3	2645.5
25°	4701.9	3882.4	2407.1	2143.1	2160.9	2208.1	2273.1	2359.8	2416.9	2436.6	2422.9
27.5°	4893.0	3860.7	2257.3	2056.4	2054.5	2076.2	2115.6	2162.8	2190.4	2184.5	2162.8
30°	5127.3	3839.1	2147.1	1979.6	1952.1	1950.1	1967.9	1995.4	2013.1	1977.7	1960.0
32.5°	5389.3	3801.7	2048.6	1912.6	1863.4	1845.7	1853.6	1891.0	1963.9	1928.4	1914.7
35°	5698.6	3758.3	1950.1	1839.8	1802.3	1768.9	1774.8	1855.5	2076.2	2050.5	2036.8
37.5°	6070.9	3718.9	1859.5	1761.0	1759.0	1717.6	1713.7	1810.2	2105.7	2050.5	2038.7
40°	6518.0	3711.1	1778.7	1674.3	1705.9	1690.1	1676.3	1735.3	1942.2	1830.0	1808.3
42.5°	7057.7	3746.6	1719.6	1591.6	1644.8	1682.1	1656.6	1670.4	1755.1	1654.6	1636.9
45°	7688.1	3843.0	1676.3	1518.7	1579.7	1676.3	1646.7	1634.9	1648.7	1593.6	1581.7
47.5°	8422.8	4014.4	1646.7	1457.6	1518.7	1660.6	1642.8	1619.1	1613.3	1581.7	1573.8
50°	9208.7	4244.8	1627.0	1402.5	1463.5	1632.9	1640.8	1607.4	1597.4	1583.7	1579.7
52.5°	9988.7	4495.1	1603.4	1355.2	1418.2	1599.5	1642.8	1595.5	1581.7	1573.8	1569.9
55°	10764.8	4755.1	1560.1	1313.9	1384.8	1560.1	1640.8	1579.7	1564.0	1564.0	1564.0
57.5°	11771.4	5151.0	1502.9	1280.3	1341.4	1508.9	1615.2	1562.0	1540.4	1542.3	1544.3
60°	13225.1	5814.8	1439.9	1242.9	1284.3	1449.7	1575.9	1530.5	1504.9	1512.7	1514.8
62.5°	15653.8	6975.0	1353.3	1189.8	1225.2	1386.7	1524.6	1487.2	1463.5	1477.3	1479.3
65°	18892.2	8379.4	1239.0	1122.8	1164.1	1315.8	1459.6	1436.0	1410.3	1443.9	1441.8
67.5°	20867.8	8791.1	1118.8	1051.9	1105.1	1240.9	1378.8	1369.0	1351.3	1410.3	1406.5
69°	20219.7	8046.5	1049.9	1006.6	1063.7	1189.8	1327.6	1323.7	1309.9	1367.1	1363.1
70°	19213.3	7351.2	1006.6	977.0	1042.0	1158.2	1294.1	1294.1	1280.3	1329.6	1319.7
72.5°	15433.3	5452.3	906.1	902.1	967.2	1071.5	1203.5	1213.4	1205.5	1223.2	1213.4
75°	9061.0	3285.6	807.6	819.4	876.6	979.0	1103.0	1110.9	1103.0	1101.1	1103.0
77.5°	3141.8	1473.4	713.1	730.8	780.0	884.4	992.8	1008.5	996.7	983.0	986.8
80°	1229.2	856.8	610.6	636.3	677.6	778.1	882.5	892.3	874.6	872.6	856.8
82.5°	738.7	522.0	474.8	516.1	567.3	675.7	762.3	758.4	744.6	825.3	722.9
85°	321.1	289.6	346.7	388.0	413.7	506.3	644.2	626.4	592.9	522.0	510.1
87.5°	130.0	149.7	191.1	230.5	248.2	326.9	441.2	425.4	431.4	354.6	352.6
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)