

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: P196350

Luminaire Tested: **NAV-AF-06-D-UNV-T4FT-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196350  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)  
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-T4FT-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(6) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 24470 lumens  
Efficiency: N/A  
Efficacy: 126.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B3 - U0 - G4

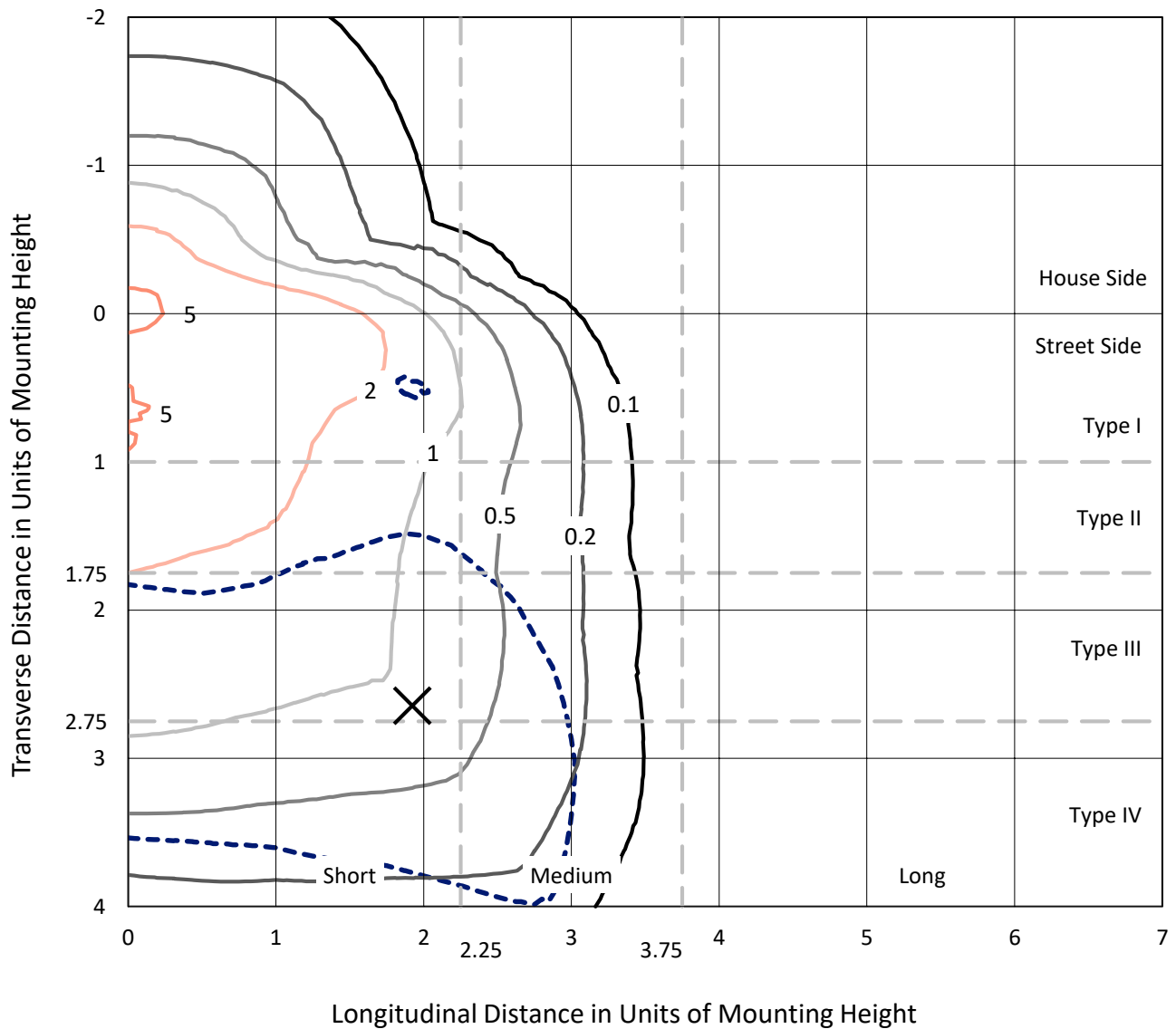
Input Watts (W): 193  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

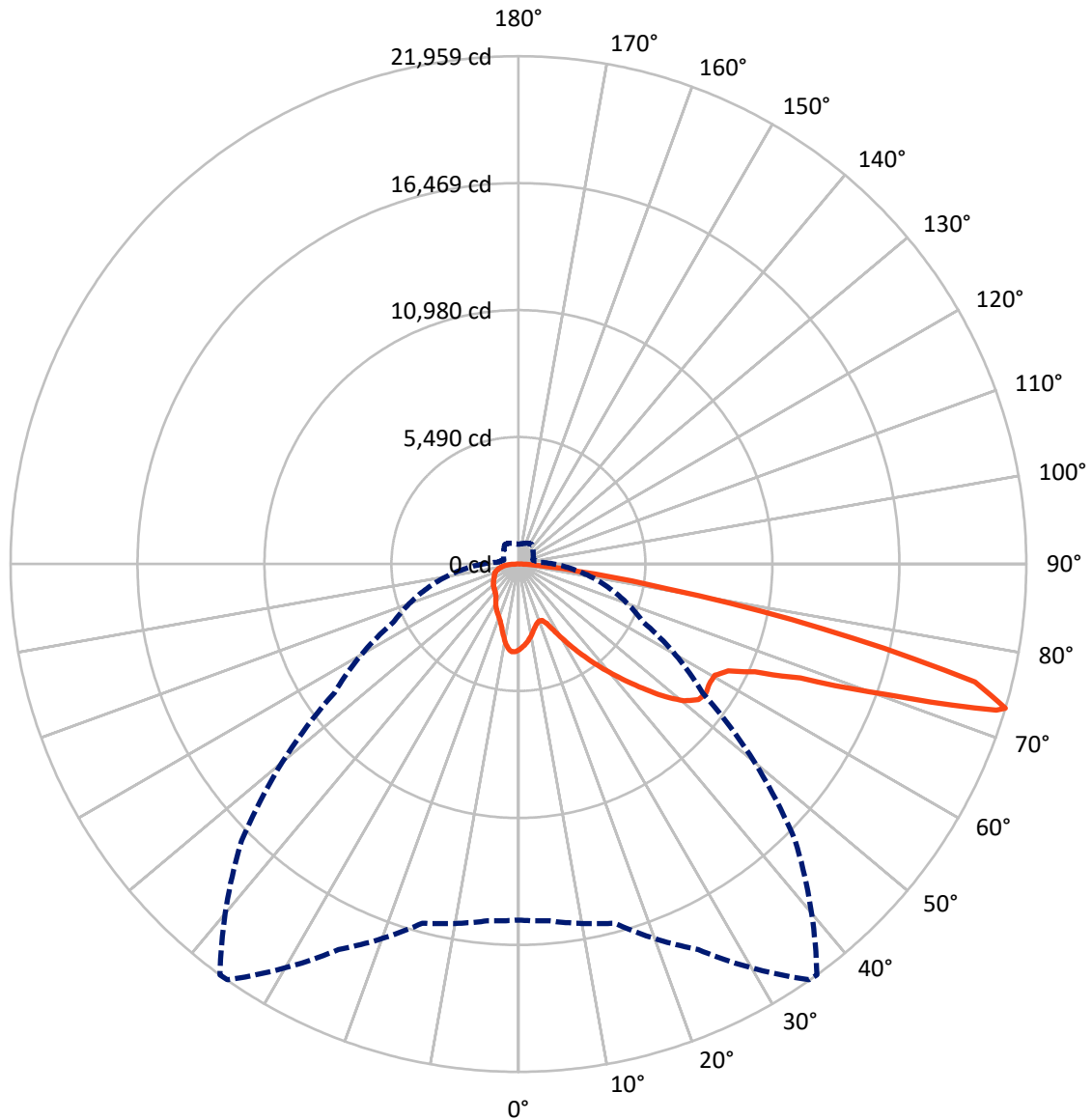
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.9 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral      - - - Horizontal Cone Through 73-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4718.6	0.0	4718.6
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	19751.5	0.0	19751.5
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	24470.0	0.0	24470.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	336.7	1.4
10°-20°	845.5	3.5
20°-30°	1355.6	5.5
30°-40°	2242.3	9.2
40°-50°	3469.7	14.2
50°-60°	4644.8	19.0
60°-70°	6067.6	24.8
70°-80°	4956.2	20.3
80°-90°	551.7	2.3
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°	24470.0	100.0
0°-180°	24470.0	100.0



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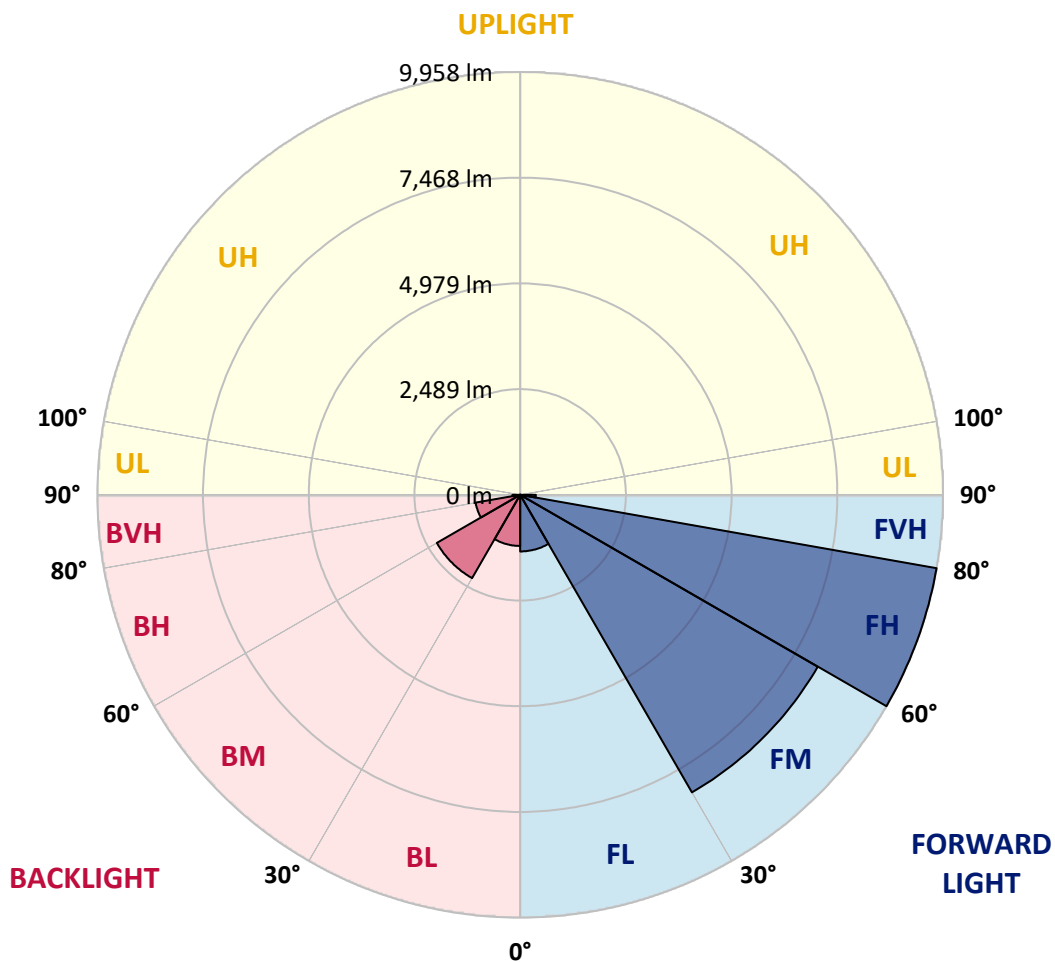
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1333.3	5.4			
FM	(30°-60°)	8090.6	33.1			
FH	(60°-80°)	9957.5	40.7			G4/12000
FVH	(80°-90°)	370.0	1.5			G3/500
BL	(0°-30°)	1204.5	4.9	B3/2500		
BM	(30°-60°)	2266.1	9.3	B2/2500		
BH	(60°-80°)	1066.3	4.4	B3/2500		G3/2500
BVH	(80°-90°)	181.7	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G4**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5
2.5°	3565.0	3574.3	3575.9	3586.8	3586.8	3585.2	3589.8	3608.6	3617.9	3639.7	3658.3
5°	3389.3	3400.2	3404.9	3423.5	3446.8	3448.4	3465.6	3501.3	3535.5	3583.7	3624.1
7.5°	3191.9	3204.3	3216.8	3255.6	3289.8	3293.0	3325.6	3383.1	3428.2	3487.2	3560.4
10°	3000.6	3003.8	3016.2	3066.0	3111.0	3115.7	3162.4	3227.6	3288.3	3370.6	3453.1
12.5°	2843.6	2852.9	2849.8	2887.2	2926.0	2929.1	2991.3	3073.8	3162.4	3255.6	3353.5
15°	2789.2	2787.6	2755.0	2753.5	2770.6	2773.6	2834.3	2930.7	3030.2	3145.3	3271.2
17.5°	2826.5	2814.0	2728.5	2675.7	2664.8	2668.0	2713.0	2818.7	2924.4	3056.6	3207.5
20°	3031.7	2983.5	2782.9	2655.5	2619.8	2619.8	2646.2	2731.7	2848.3	3002.2	3191.9
22.5°	3518.3	3443.8	3016.2	2789.2	2663.3	2650.9	2630.6	2695.9	2825.0	3009.9	3255.6
25°	4131.0	4095.2	3443.8	3145.3	2885.6	2845.1	2711.4	2734.8	2873.2	3093.9	3429.7
27.5°	4698.4	4636.2	4005.0	3663.0	3296.0	3233.9	2950.9	2856.1	2988.2	3249.4	3681.6
30°	5029.5	4987.6	4581.8	4255.3	3818.5	3739.2	3333.4	3095.4	3193.4	3506.0	4039.2
32.5°	5390.2	5365.4	5160.2	4863.2	4384.4	4292.6	3827.8	3485.7	3507.5	3846.4	4469.9
35°	5740.1	5772.7	5656.1	5438.5	4993.8	4908.3	4491.7	3995.6	3894.6	4228.9	4930.1
37.5°	6159.9	6167.7	6094.5	5953.1	5634.4	5564.4	5220.8	4539.9	4315.9	4636.2	5374.7
40°	6997.9	6875.0	6588.9	6477.0	6287.4	6243.8	5852.0	5039.0	4707.7	5054.5	5794.5
42.5°	7904.2	7713.0	7265.3	7081.8	7005.7	6965.3	6377.5	5371.6	5074.7	5472.7	6206.5
45°	8635.0	8479.5	8041.1	7814.1	7823.4	7758.2	6836.2	5668.6	5472.7	5892.5	6666.7
47.5°	9354.9	9095.3	8603.9	8571.3	8680.1	8583.7	7274.6	5965.5	5887.8	6349.6	7126.9
50°	9401.5	9165.1	8966.2	9227.3	9413.9	9294.2	7672.6	6354.2	6318.5	6903.1	7720.8
52.5°	8834.0	8799.8	9103.0	9543.0	9852.3	9745.1	7997.5	6753.8	6758.4	7594.9	8443.7
55°	8627.3	8583.7	8947.5	9488.6	9906.8	9843.0	8240.1	7204.6	7246.6	8434.4	9219.5
57.5°	8975.5	8866.6	8938.2	9386.0	9779.3	9742.0	8492.0	7705.3	7781.5	9401.5	9936.3
60°	10056.0	9833.7	9454.3	9538.3	9784.0	9762.2	8852.7	8263.4	8391.0	10408.9	10390.3
62.5°	11674.5	11422.7	10649.9	10276.8	10222.4	10180.4	9448.2	8949.1	9012.8	11136.6	10126.0
65°	13450.1	13179.5	12260.7	11649.7	11329.4	11239.2	10408.9	9776.2	9376.6	11135.0	9096.8
67.5°	15443.2	15157.2	14241.4	13658.3	13311.7	13157.7	11968.3	10444.7	9258.4	10192.9	7279.3
70°	17484.6	17212.5	16792.8	16996.4	17148.7	16914.0	14424.8	10667.0	8409.6	7991.4	4888.1
72.5°	16401.0	16379.2	16697.8	18628.9	21565.7	21612.4	16878.3	10038.9	6497.3	4749.8	2605.8
73°	15395.0	15486.8	16077.5	18387.8	21943.5	21959.1	16926.5	9714.0	5965.5	4092.1	2288.5
75°	7975.8	8597.7	10789.9	14909.9	20318.9	20391.9	14920.9	7353.9	3555.7	2273.0	1542.3
77.5°	2136.2	2108.2	3476.4	7263.8	13546.4	13450.1	9427.9	3560.4	1704.0	1425.7	1082.1
80°	732.3	741.6	1183.1	2657.0	6323.2	6548.5	4092.1	1553.1	1120.9	993.5	766.5
82.5°	373.2	385.6	618.8	1130.3	2644.6	2588.7	1316.8	914.2	750.9	603.2	429.1
85°	199.0	205.2	340.4	586.2	970.2	981.0	463.3	488.2	477.3	342.1	211.4
87.5°	98.0	101.1	163.3	258.1	359.2	346.7	161.7	211.4	234.8	192.8	116.6
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°	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5	3706.5
2.5°	3681.6	3681.6	3701.9	3736.0	3760.9	3784.2	3799.8	3824.6	3838.6	3837.1	3835.6
5°	3656.7	3672.3	3712.7	3754.7	3782.7	3801.3	3801.3	3812.2	3812.2	3807.5	3801.3
7.5°	3599.3	3625.6	3684.8	3722.0	3729.8	3709.6	3669.2	3638.1	3599.3	3579.0	3571.2
10°	3507.5	3541.7	3616.3	3633.4	3593.0	3521.5	3423.5	3339.5	3265.0	3230.8	3219.8
12.5°	3417.3	3462.4	3532.4	3506.0	3409.5	3269.7	3118.8	3003.8	2919.8	2887.2	2876.2
15°	3342.7	3397.1	3451.5	3369.1	3201.2	3006.9	2840.5	2733.2	2669.5	2644.6	2638.4
17.5°	3293.0	3356.7	3375.3	3221.4	2988.2	2770.6	2622.8	2552.9	2524.8	2514.0	2510.9
20°	3296.0	3367.6	3322.4	3078.4	2782.9	2563.7	2465.8	2445.6	2445.6	2445.6	2444.0
22.5°	3381.6	3443.8	3300.8	2944.7	2585.5	2389.6	2347.7	2364.8	2377.2	2377.2	2375.6
25°	3558.7	3593.0	3316.3	2815.7	2400.6	2238.8	2240.4	2273.0	2283.9	2283.9	2280.8
27.5°	3829.3	3801.3	3344.2	2672.6	2218.6	2102.0	2123.7	2153.3	2161.1	2156.4	2154.8
30°	4168.2	4056.3	3367.6	2504.7	2047.5	1974.5	1993.2	2010.3	2004.1	1993.2	1991.6
32.5°	4547.6	4315.9	3353.5	2316.6	1896.8	1842.3	1853.3	1862.6	1853.3	1826.8	1826.8
35°	4923.9	4550.7	3277.4	2111.4	1777.1	1714.9	1713.3	1742.9	1741.3	1710.2	1711.8
37.5°	5253.5	4735.8	3129.7	1923.2	1674.5	1621.6	1627.8	1646.4	1655.7	1613.8	1609.2
40°	5541.1	4863.2	2921.3	1763.1	1592.0	1595.2	1578.1	1548.5	1537.6	1519.0	1515.9
42.5°	5811.6	4951.8	2700.6	1629.4	1550.1	1585.9	1528.3	1458.3	1428.8	1445.9	1456.8
45°	6077.5	5051.3	2487.6	1519.0	1497.2	1557.9	1478.6	1400.8	1366.7	1374.4	1385.3
47.5°	6402.4	5189.7	2231.1	1400.8	1416.4	1506.5	1447.5	1363.5	1312.2	1281.1	1271.7
50°	6829.9	5390.2	1898.3	1273.4	1330.9	1450.5	1421.0	1309.1	1253.1	1190.9	1175.4
52.5°	7364.8	5580.0	1562.6	1170.8	1260.9	1402.4	1377.5	1262.4	1194.0	1119.4	1106.9
55°	7898.1	5606.4	1273.4	1082.1	1181.6	1337.1	1324.6	1225.1	1128.7	1068.1	1055.7
57.5°	8271.2	5356.1	1079.0	1007.5	1105.4	1256.2	1276.4	1180.1	1074.3	1027.7	1019.9
60°	8277.4	4757.5	960.9	957.7	1047.9	1186.2	1226.7	1127.2	1040.1	1009.0	1002.8
62.5°	7619.8	3834.0	884.6	920.5	1005.9	1128.7	1189.4	1097.6	1032.4	1019.9	1013.6
65°	6386.9	2832.8	824.0	886.2	967.1	1080.5	1158.3	1088.3	1029.2	1024.6	1019.9
67.5°	4715.5	1941.9	772.7	842.7	923.5	1030.8	1128.7	1074.3	1010.6	1029.2	1023.1
70°	2966.5	1296.7	724.6	792.9	866.0	973.2	1089.9	1049.4	987.2	976.4	956.2
72.5°	1674.5	937.5	667.0	729.2	791.4	897.1	1037.0	1007.5	934.4	890.9	870.6
73°	1512.7	887.7	652.9	713.6	774.3	881.6	1024.6	995.0	918.8	870.6	852.0
75°	1106.9	726.1	589.2	649.9	702.8	810.0	965.5	932.8	850.5	792.9	780.5
77.5°	802.2	559.7	506.9	561.3	607.9	710.5	876.9	839.5	758.7	727.6	715.1
80°	578.4	424.4	419.8	472.6	513.1	617.2	782.0	743.2	665.4	757.2	736.9
82.5°	345.1	272.1	307.8	366.9	408.9	517.7	679.4	634.3	559.7	565.9	482.0
85°	164.8	154.0	191.2	241.0	270.6	354.5	565.9	530.2	447.7	366.9	359.2
87.5°	73.0	70.0	91.8	107.3	144.5	213.0	387.1	343.6	324.9	194.4	152.3
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)