

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: P196835

Luminaire Tested: **NAV-AF-05-D-UNV-T4FT-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196835
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-05-D-UNV-T4FT-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 800mA 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: 23683 lumens
Efficiency: N/A
Efficacy: 112.8 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

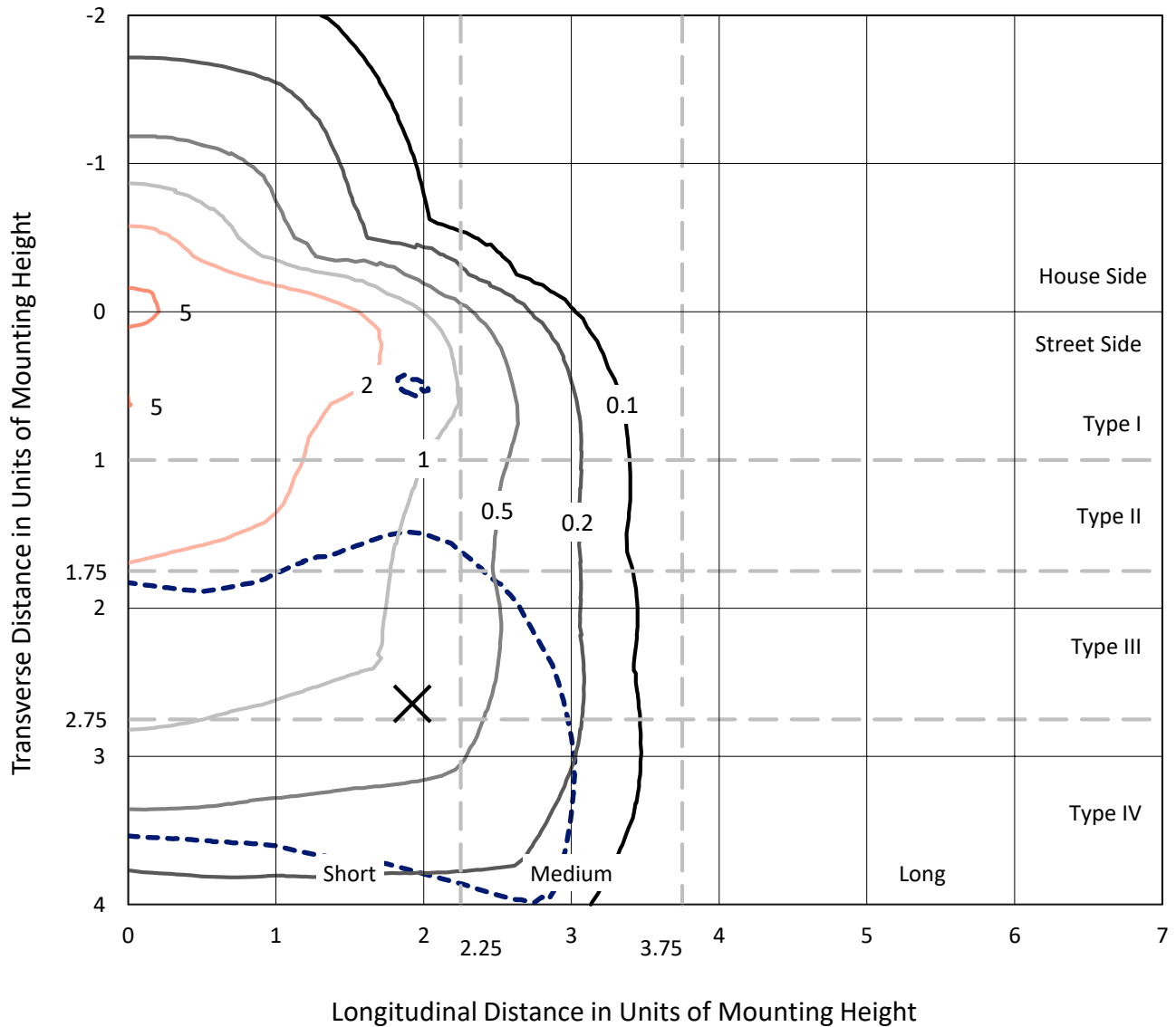
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

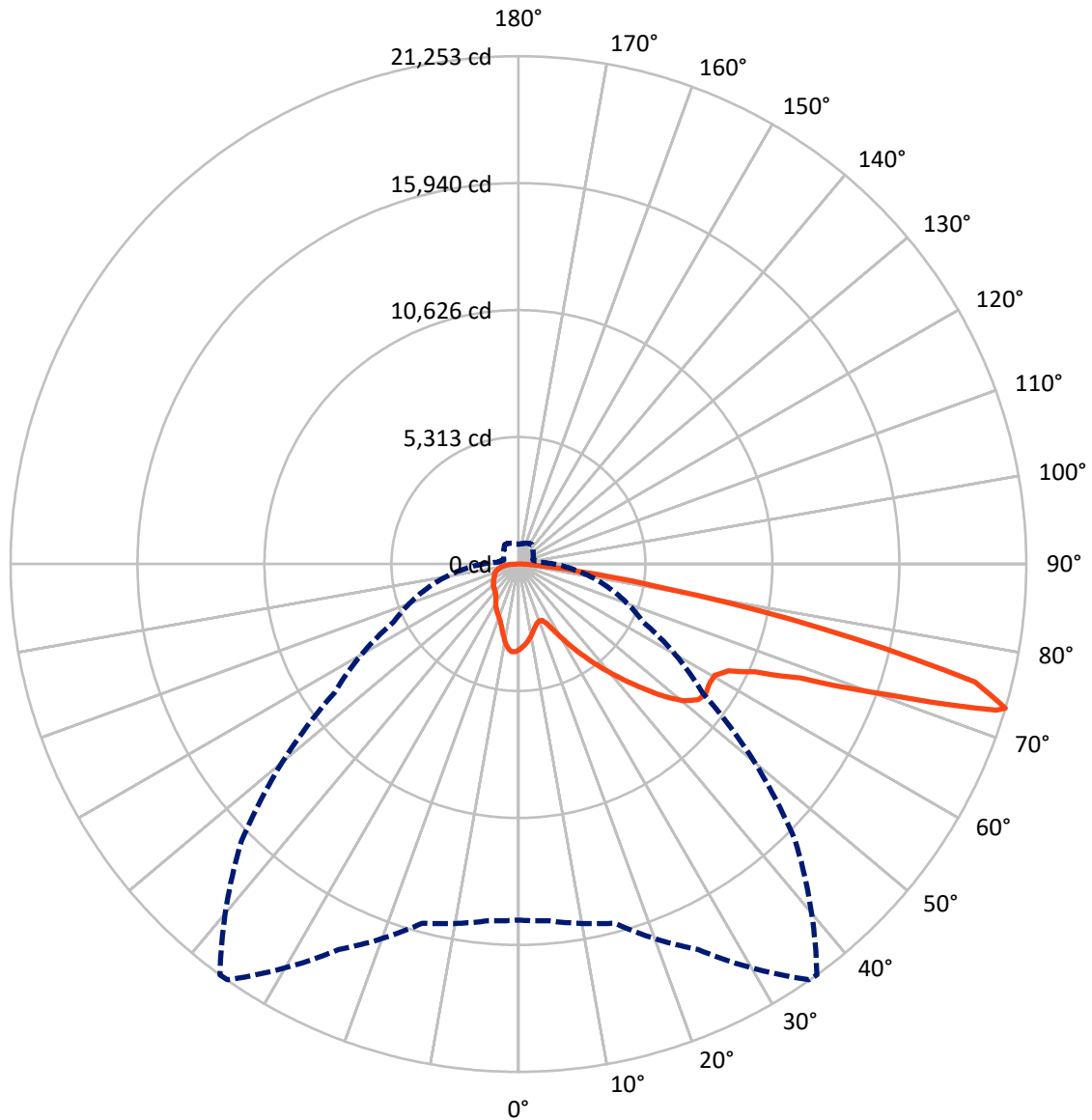
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 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
House Side	Lumens	4566.8	0.0	4566.8
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	19116.2	0.0	19116.2
	% Fixture	80.7	0.0	80.7
Total	Lumens	23683.0	0.0	23683.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	325.8	1.4
10°-20°	818.3	3.5
20°-30°	1312.0	5.5
30°-40°	2170.2	9.2
40°-50°	3358.1	14.2
50°-60°	4495.4	19.0
60°-70°	5872.5	24.8
70°-80°	4796.8	20.3
80°-90°	533.9	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°	23683.0	100.0
0°-180°	23683.0	100.0



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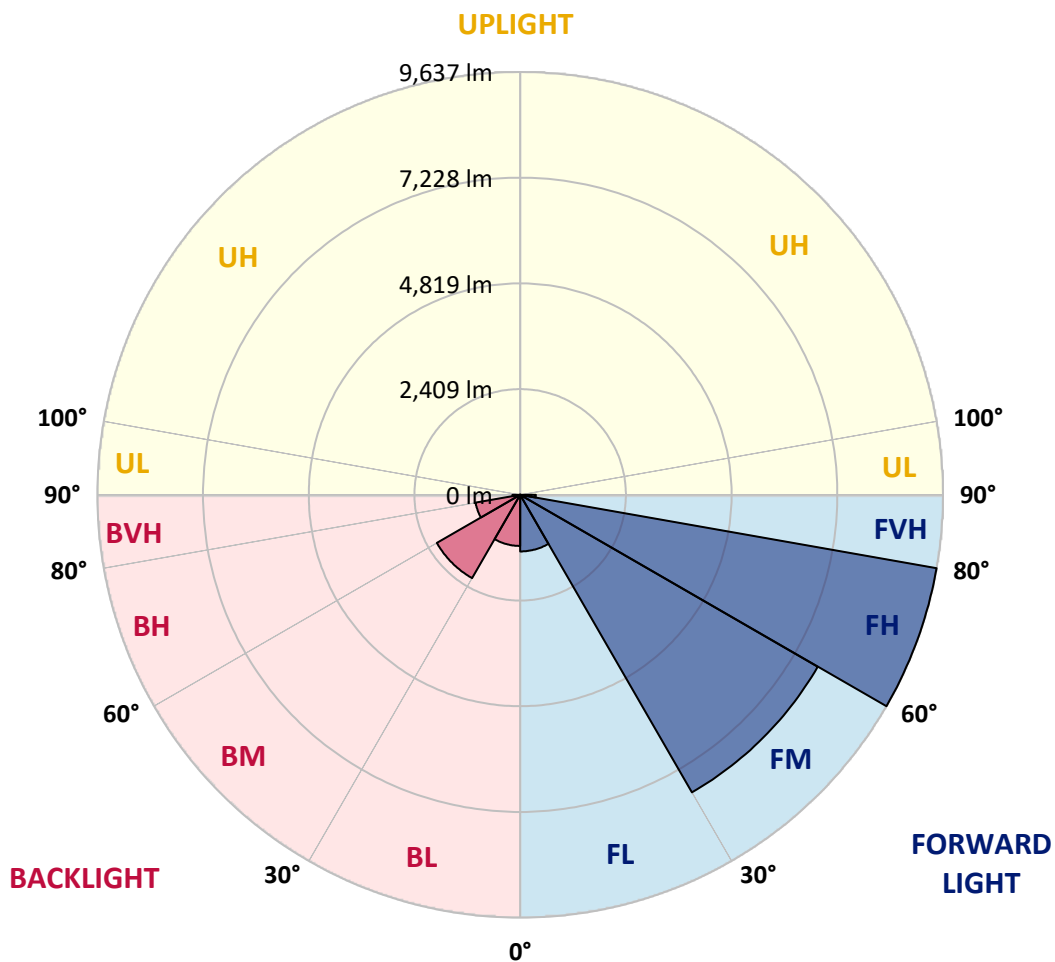
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1290.5	5.4			
FM	(30°-60°)	7830.4	33.1			
FH	(60°-80°)	9637.3	40.7			G4/12000
FVH	(80°-90°)	358.1	1.5			G3/500
BL	(0°-30°)	1165.7	4.9	B3/2500		
BM	(30°-60°)	2193.2	9.3	B2/2500		
BH	(60°-80°)	1032.0	4.4	B3/2500		G3/2500
BVH	(80°-90°)	175.8	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°	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3
2.5°	3450.4	3459.3	3460.9	3471.3	3471.3	3470.0	3474.5	3492.5	3501.5	3522.6	3540.6
5°	3280.3	3290.9	3295.4	3313.4	3336.0	3337.6	3354.0	3388.6	3421.8	3468.4	3507.6
7.5°	3089.2	3101.3	3113.4	3150.9	3184.1	3187.0	3218.7	3274.3	3317.9	3375.1	3445.8
10°	2904.1	2907.2	2919.2	2967.4	3010.9	3015.4	3060.7	3123.8	3182.5	3262.3	3342.0
12.5°	2752.1	2761.2	2758.1	2794.3	2831.9	2835.0	2895.2	2974.9	3060.7	3150.9	3245.8
15°	2699.5	2697.9	2666.4	2665.0	2681.4	2684.5	2743.2	2836.5	2932.7	3044.1	3166.0
17.5°	2735.7	2723.7	2640.8	2589.7	2579.1	2582.2	2625.7	2728.1	2830.4	2958.3	3104.3
20°	2934.2	2887.6	2693.5	2570.1	2535.5	2535.5	2561.0	2643.8	2756.7	2905.6	3089.2
22.5°	3405.2	3333.0	2919.2	2699.5	2577.7	2565.6	2546.0	2609.2	2734.1	2913.2	3150.9
25°	3998.2	3963.5	3333.0	3044.1	2792.7	2753.7	2624.3	2646.8	2780.7	2994.5	3319.4
27.5°	4547.3	4487.2	3876.2	3545.1	3190.1	3129.8	2856.0	2764.2	2892.1	3144.9	3563.2
30°	4867.8	4827.2	4434.5	4118.4	3695.5	3618.8	3226.2	2995.9	3090.7	3393.1	3909.3
32.5°	5216.9	5192.9	4994.2	4706.8	4243.3	4154.6	3704.7	3373.6	3394.6	3722.7	4326.1
35°	5555.5	5587.1	5474.2	5263.6	4833.2	4750.5	4347.2	3867.1	3769.3	4092.9	4771.6
37.5°	5961.7	5969.3	5898.6	5761.7	5453.1	5385.5	5052.9	4393.9	4177.2	4487.2	5201.9
40°	6772.9	6654.0	6377.0	6268.7	6085.2	6043.0	5663.8	4876.9	4556.3	4891.9	5608.2
42.5°	7650.2	7465.0	7031.6	6854.1	6780.3	6741.2	6172.4	5198.9	4911.4	5296.7	6006.8
45°	8357.4	8206.8	7782.5	7562.8	7571.8	7508.7	6616.3	5486.2	5296.7	5702.9	6452.3
47.5°	9054.0	8802.7	8327.2	8295.6	8401.0	8307.6	7040.6	5773.7	5698.4	6145.4	6897.7
50°	9099.1	8870.4	8677.8	8930.7	9111.1	8995.4	7426.0	6149.8	6115.2	6680.9	7472.6
52.5°	8549.9	8516.8	8810.2	9236.1	9535.5	9431.7	7740.4	6536.6	6541.2	7350.6	8172.3
55°	8349.8	8307.6	8659.8	9183.5	9588.1	9526.6	7975.1	6972.9	7013.6	8163.2	8923.1
57.5°	8686.8	8581.6	8650.7	9084.2	9464.8	9428.6	8218.9	7457.5	7531.2	9099.1	9616.8
60°	9732.6	9517.5	9150.4	9231.6	9469.3	9448.2	8568.0	7997.7	8121.0	10074.2	10056.1
62.5°	11299.0	11055.3	10307.4	9946.3	9893.7	9853.0	9144.2	8661.3	8722.9	10778.4	9800.3
65°	13017.4	12755.7	11866.3	11275.0	10965.0	10877.8	10074.2	9461.8	9075.1	10776.9	8804.2
67.5°	14946.5	14669.7	13783.4	13219.1	12883.6	12734.6	11583.4	10108.7	8960.7	9865.0	7045.1
70°	16922.3	16659.0	16252.7	16449.7	16597.2	16370.0	13960.9	10324.0	8139.2	7734.4	4730.9
72.5°	15873.5	15852.4	16160.9	18029.8	20872.3	20917.3	16335.5	9716.1	6288.3	4597.0	2521.9
73°	14899.9	14988.7	15560.4	17796.4	21237.9	21252.9	16382.2	9401.5	5773.7	3960.4	2215.0
75°	7719.2	8321.1	10442.9	14430.4	19665.3	19736.1	14440.9	7117.3	3441.3	2199.9	1492.7
77.5°	2067.5	2040.4	3364.6	7030.2	13110.8	13017.4	9124.7	3445.8	1649.2	1379.8	1047.2
80°	708.8	717.8	1145.1	2571.6	6119.7	6337.9	3960.4	1503.2	1085.0	961.5	741.9
82.5°	361.1	373.1	598.8	1093.9	2559.5	2505.5	1274.5	884.8	726.8	583.9	415.3
85°	192.7	198.7	329.5	567.3	939.0	949.5	448.4	472.4	461.9	331.0	204.7
87.5°	94.8	97.8	158.0	249.7	347.6	335.5	156.5	204.7	227.3	186.7	112.9
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°	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3	3587.3
2.5°	3563.2	3563.2	3582.8	3615.9	3640.0	3662.5	3677.5	3701.7	3715.2	3713.7	3712.2
5°	3539.1	3554.2	3593.3	3634.0	3661.1	3679.1	3679.1	3689.5	3689.5	3685.1	3679.1
7.5°	3483.5	3509.1	3566.2	3602.4	3609.8	3590.3	3551.2	3521.1	3483.5	3463.9	3456.4
10°	3394.6	3427.8	3500.0	3516.6	3477.4	3408.3	3313.4	3232.2	3160.0	3126.9	3116.3
12.5°	3307.4	3351.1	3418.7	3393.1	3299.8	3164.4	3018.5	2907.2	2825.9	2794.3	2783.8
15°	3235.1	3287.8	3340.5	3260.8	3098.3	2910.1	2749.2	2645.2	2583.7	2559.5	2553.5
17.5°	3187.0	3248.8	3266.8	3117.8	2892.1	2681.4	2538.5	2470.8	2443.7	2433.2	2430.2
20°	3190.1	3259.3	3215.6	2979.4	2693.5	2481.3	2386.5	2367.0	2367.0	2367.0	2365.5
22.5°	3272.8	3333.0	3194.5	2849.9	2502.4	2312.8	2272.1	2288.7	2300.8	2300.8	2299.3
25°	3444.3	3477.4	3209.6	2725.0	2323.3	2166.8	2168.4	2199.9	2210.5	2210.5	2207.5
27.5°	3706.2	3679.1	3236.7	2586.6	2147.3	2034.4	2055.5	2084.0	2091.5	2087.1	2085.5
30°	4034.2	3925.9	3259.3	2424.1	1981.8	1911.1	1929.1	1945.6	1939.6	1929.1	1927.6
32.5°	4401.4	4177.2	3245.8	2242.1	1835.8	1783.1	1793.6	1802.7	1793.6	1768.1	1768.1
35°	4765.5	4404.3	3172.1	2043.4	1720.0	1659.7	1658.2	1686.9	1685.4	1655.2	1656.7
37.5°	5084.5	4583.4	3029.0	1861.3	1620.7	1569.4	1575.4	1593.5	1602.5	1562.0	1557.4
40°	5362.9	4706.8	2827.4	1706.4	1540.9	1543.9	1527.3	1498.7	1488.2	1470.1	1467.2
42.5°	5624.6	4792.5	2613.7	1576.9	1500.2	1534.9	1479.2	1411.4	1382.9	1399.4	1410.0
45°	5882.0	4889.0	2407.5	1470.1	1449.1	1507.8	1431.0	1355.8	1322.7	1330.2	1340.7
47.5°	6196.5	5022.7	2159.3	1355.8	1370.7	1458.1	1400.9	1319.7	1270.0	1239.9	1231.0
50°	6610.3	5216.9	1837.3	1232.3	1288.0	1403.9	1375.3	1267.0	1212.8	1152.5	1137.6
52.5°	7128.0	5400.4	1512.2	1133.0	1220.3	1357.2	1333.2	1221.8	1155.6	1083.5	1071.4
55°	7644.1	5426.1	1232.3	1047.2	1143.6	1294.0	1282.0	1185.7	1092.5	1033.7	1021.7
57.5°	8005.2	5183.8	1044.3	975.0	1069.8	1215.8	1235.4	1142.1	1039.8	994.6	987.1
60°	8011.2	4604.5	929.9	926.9	1014.2	1148.1	1187.2	1091.0	1006.8	976.6	970.6
62.5°	7374.7	3710.7	856.1	890.8	973.6	1092.5	1151.1	1062.3	999.1	987.1	981.0
65°	6181.5	2741.7	797.5	857.6	936.0	1045.8	1121.0	1053.4	996.1	991.6	987.1
67.5°	4563.9	1879.4	747.9	815.6	893.8	997.6	1092.5	1039.8	978.1	996.1	990.1
70°	2871.0	1255.0	701.2	767.4	838.1	942.0	1054.8	1015.7	955.5	945.0	925.4
72.5°	1620.7	907.4	645.5	705.7	765.9	868.3	1003.6	975.0	904.3	862.2	842.6
73°	1464.1	859.3	631.9	690.6	749.4	853.2	991.6	963.0	889.3	842.6	824.6
75°	1071.4	702.7	570.4	629.0	680.1	783.9	934.5	902.8	823.0	767.4	755.4
77.5°	776.4	541.7	490.6	543.2	588.4	687.7	848.6	812.6	734.3	704.1	692.1
80°	559.7	410.9	406.2	457.5	496.6	597.4	756.8	719.3	644.0	732.8	713.3
82.5°	334.0	263.4	297.9	355.1	395.7	501.1	657.5	613.9	541.7	547.7	466.4
85°	159.5	148.9	185.0	233.3	261.7	343.1	547.7	513.1	433.3	355.1	347.6
87.5°	70.7	67.7	88.8	103.8	140.0	206.2	374.6	332.5	314.4	188.2	147.5
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)