

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: P196504

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-7030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196504  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-04-D-UNV-AFL-7030  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 24176.9 lumens  
Efficiency: N/A  
Efficacy: 107.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B3 - U0 - G2

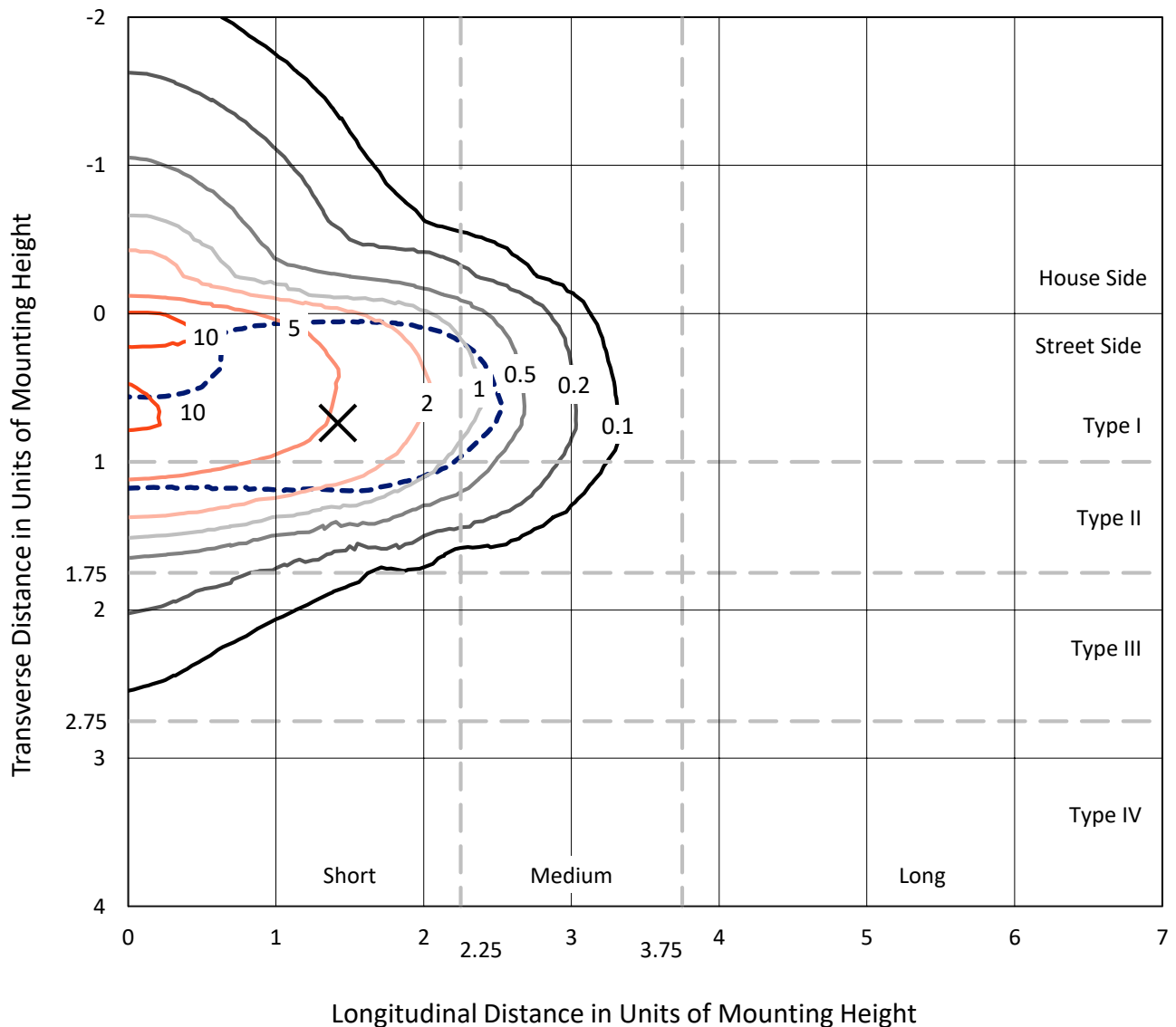
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P196504  
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### Iso-Footcandle Lines of Horizontal Illumination

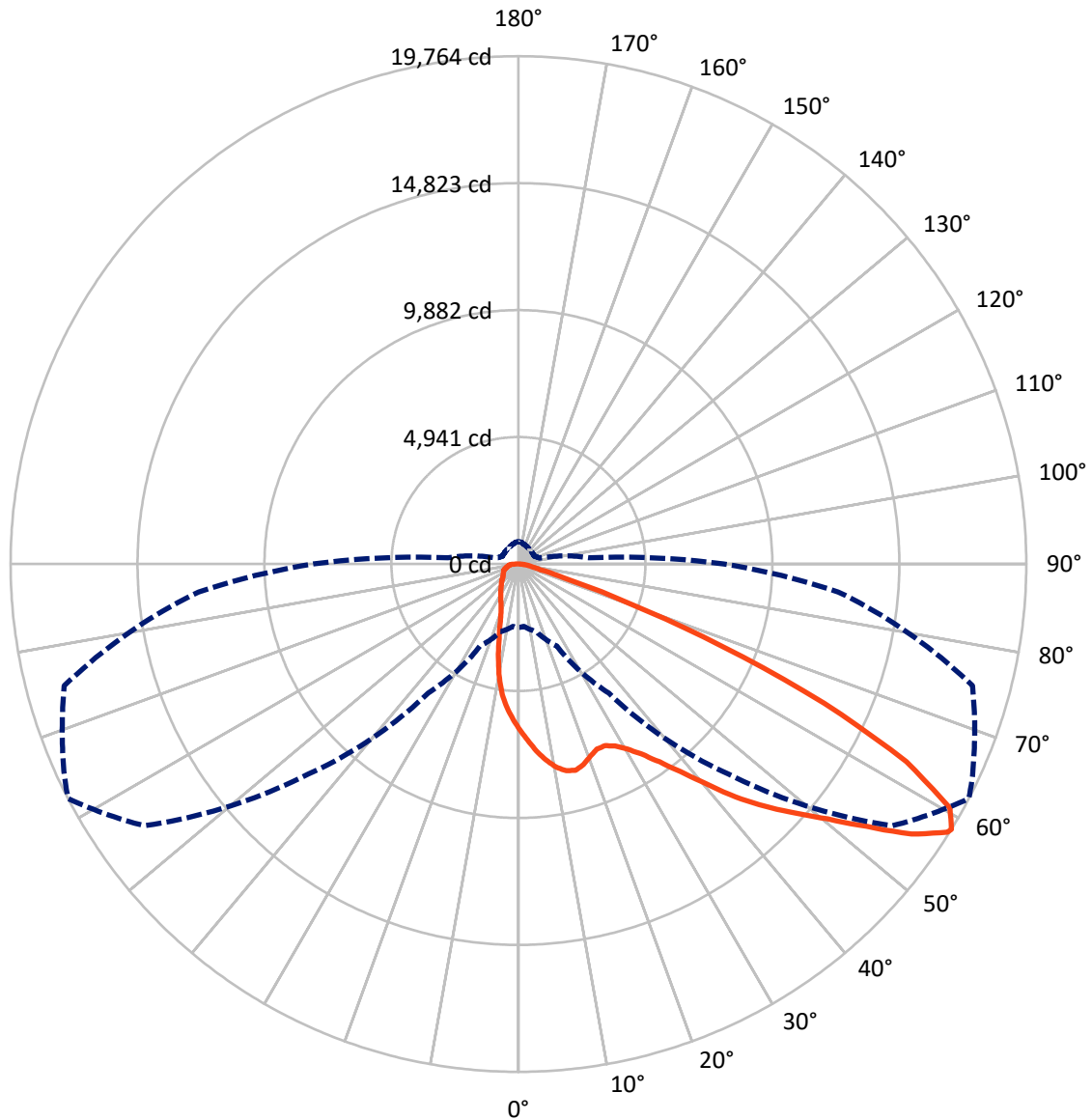
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 12.1 fc  
 Type II - Short - Full Cutoff

REPORT NUMBER: P196504  
CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7030

### Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral    - - - Horizontal Cone Through 58-Deg Vertical

REPORT NUMBER: P196504

CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7030

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3712.1	0.0	3712.1
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	20464.8	0.0	20464.8
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	24176.9	0.0	24176.9
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	577.0	2.4
10°-20°	1456.1	6.0
20°-30°	2359.9	9.8
30°-40°	3767.7	15.6
40°-50°	5480.2	22.7
50°-60°	5734.6	23.7
60°-70°	3496.0	14.5
70°-80°	977.7	4.0
80°-90°	327.7	1.4
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°	24176.9	100.0
0°-180°	24176.9	100.0



REPORT NUMBER: P196504

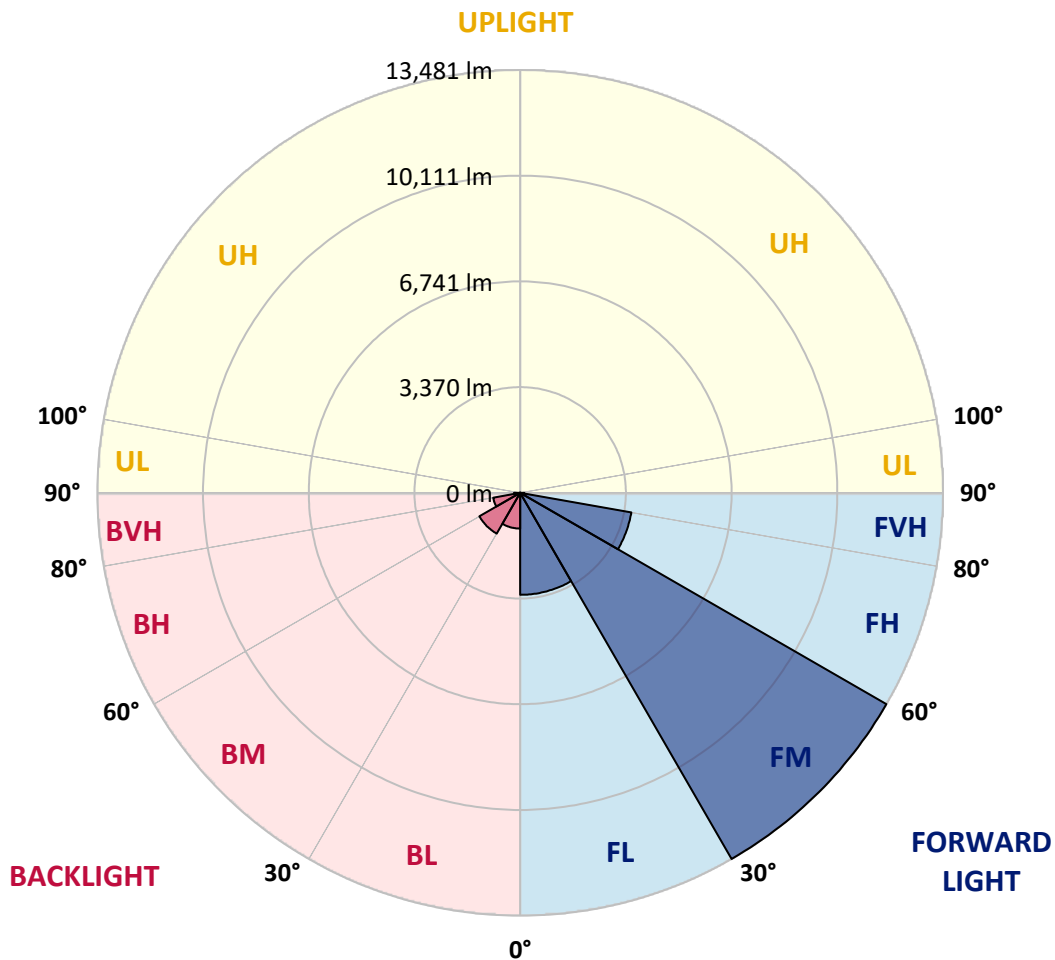
CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7030

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3251.9	13.5			
FM (30°-60°)	13481.3	55.8			
FH (60°-80°)	3599.8	14.9			G2/5000
FVH (80°-90°)	131.8	0.5			G2/225
BL (0°-30°)	1141.1	4.7	B3/2500		
BM (30°-60°)	1501.2	6.2	B2/2500		
BH (60°-80°)	873.9	3.6	B2/1000		G2/1000
BVH (80°-90°)	195.9	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G2**

Type II Short





REPORT NUMBER: P196504  
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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0
2.5°	7326.9	7322.4	7260.5	7219.7	7171.3	7059.5	6947.7	6864.5	6822.2	6660.6	6503.4
5°	7932.9	7914.7	7880.0	7836.2	7772.7	7632.2	7455.5	7302.8	7242.4	6955.2	6666.6
7.5°	7612.5	7641.3	7748.4	7869.4	7996.3	8005.4	7880.0	7698.6	7632.2	7248.4	6825.3
10°	6725.6	6713.4	6848.0	7083.6	7502.2	7916.3	8123.2	8034.1	7964.6	7526.5	6984.0
12.5°	6456.5	6453.5	6476.3	6536.7	6799.5	7367.7	8061.2	8254.6	8230.5	7821.0	7153.2
15°	6538.2	6541.3	6539.7	6547.3	6619.8	6890.2	7715.3	8328.8	8404.3	8112.6	7325.4
17.5°	6799.5	6789.1	6755.7	6719.5	6730.1	6826.7	7342.0	8201.8	8428.5	8372.5	7470.5
20°	7203.0	7203.0	7113.9	7012.6	6946.1	6967.4	7186.4	7984.2	8316.6	8593.1	7579.4
22.5°	7709.3	7716.8	7585.4	7401.0	7249.9	7192.4	7275.6	7822.5	8180.7	8797.1	7676.0
25°	8337.8	8336.3	8144.4	7880.0	7641.3	7503.7	7502.2	7830.1	8138.4	9035.8	7777.2
27.5°	9115.9	9044.9	8821.4	8445.0	8108.1	7898.2	7802.9	8020.5	8227.4	9329.0	7913.2
30°	9993.8	9921.4	9628.3	9144.7	8688.4	8381.6	8224.5	8349.9	8499.5	9702.2	8118.7
32.5°	10862.7	10879.4	10534.8	9989.3	9403.1	8970.9	8738.2	8815.2	8919.5	10158.6	8396.7
35°	12135.0	12133.5	11683.2	11001.8	10305.2	9706.8	9412.1	9452.9	9548.1	10802.3	8786.5
37.5°	13083.9	13068.8	12778.6	12175.8	11391.6	10673.9	10247.8	10253.8	10335.4	11610.7	9300.3
40°	13180.6	13177.5	13176.1	13090.0	12553.6	11876.6	11343.2	11233.0	11266.2	12468.8	9845.8
42.5°	12441.7	12552.0	12869.3	13355.9	13505.5	13150.5	12645.6	12399.4	12326.8	13454.0	10423.0
45°	11388.5	11444.5	12000.5	13094.5	13984.5	14347.2	13967.8	13448.0	13324.1	14412.1	10892.9
47.5°	10898.9	10874.8	11196.7	12388.8	13937.6	15299.0	15326.3	14474.0	14264.1	15238.6	11293.4
50°	9848.8	9817.1	10223.5	11350.7	13426.9	15772.0	16720.9	15592.2	15203.9	16024.4	11656.0
52.5°	7756.1	7725.8	8271.4	9723.4	12284.6	15595.2	17896.4	16964.2	16302.3	16781.3	11994.5
55°	5046.8	5049.9	5569.6	7067.0	9941.0	14564.7	18448.0	18549.3	17807.4	17538.4	12267.9
57.5°	2778.8	2753.2	3123.2	4043.4	6838.9	12224.2	17988.7	19691.6	19304.8	18188.2	12465.9
58°	2470.5	2440.3	2725.9	3519.1	6131.7	11563.8	17757.5	19764.1	19496.7	18295.5	12494.6
60°	1760.3	1709.0	1665.1	1983.9	3532.8	8337.8	16216.3	19294.2	19552.6	18509.9	12467.5
62.5°	1483.8	1424.8	1267.7	1255.6	1663.6	4078.2	12824.0	16944.6	17668.4	18015.9	12029.2
65°	1378.1	1319.1	1112.1	1038.1	1128.7	1760.3	7929.8	13083.9	14051.0	16297.8	10926.2
67.5°	1302.5	1233.0	1010.8	914.2	932.3	1053.1	3365.0	8556.8	9678.0	12709.1	8765.5
70°	1234.5	1157.5	930.8	819.0	803.8	800.9	1314.6	4468.0	5548.5	8316.6	5871.8
72.5°	1157.5	1081.8	859.8	740.4	707.1	649.8	790.3	1846.5	2531.0	4076.7	2691.2
75°	1045.6	983.7	781.2	675.4	618.0	527.4	583.2	885.4	1091.0	1560.9	1249.6
77.5°	920.2	870.4	701.1	621.0	544.0	430.6	445.8	599.9	673.9	879.4	723.8
80°	651.3	669.4	612.0	547.0	479.0	347.6	343.0	439.7	483.5	590.8	486.5
82.5°	448.7	462.3	498.7	432.1	386.8	270.5	252.4	305.3	327.9	356.6	235.7
85°	320.3	311.3	346.1	309.8	284.1	172.3	161.7	193.4	207.0	217.5	113.3
87.5°	194.9	193.4	199.5	160.2	148.0	87.6	80.1	92.3	98.3	95.2	54.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196504  
 CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7030

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0	6455.0
2.5°	6444.5	6370.5	6208.7	6078.8	5938.3	5831.0	5723.8	5663.4	5596.8	5559.0	5554.5
5°	6515.4	6364.5	6019.8	5699.5	5370.2	5074.0	4783.9	4569.3	4394.1	4294.3	4288.3
7.5°	6594.2	6356.8	5824.9	5270.4	4684.2	4100.9	3585.7	3221.5	2987.2	2878.6	2870.9
10°	6654.6	6325.1	5587.7	4724.9	3795.6	3025.1	2556.6	2342.1	2271.1	2252.9	2249.8
12.5°	6727.1	6302.5	5288.5	4025.3	2901.2	2302.7	2160.7	2147.2	2162.2	2171.3	2172.8
15°	6795.1	6258.6	4885.1	3250.3	2271.1	2058.0	2061.0	2089.7	2119.9	2133.5	2135.0
17.5°	6826.7	6151.4	4354.7	2561.1	1987.0	1947.6	1982.5	2020.2	2047.4	2058.0	2058.0
20°	6826.7	5979.1	3739.7	2074.7	1839.0	1846.5	1888.8	1917.5	1923.5	1914.4	1910.0
22.5°	6798.1	5766.0	3141.4	1810.2	1718.0	1746.7	1780.0	1760.3	1689.3	1634.9	1624.3
25°	6772.4	5513.7	2565.7	1648.5	1612.2	1650.1	1636.4	1502.0	1393.2	1337.3	1328.1
27.5°	6730.1	5208.5	2085.2	1515.5	1509.5	1539.7	1405.3	1275.3	1220.9	1190.7	1184.6
30°	6719.5	4877.6	1745.2	1397.7	1408.3	1366.0	1211.8	1169.5	1157.5	1140.7	1133.2
32.5°	6754.3	4546.6	1532.2	1301.0	1311.5	1172.6	1113.6	1119.7	1118.2	1097.0	1089.5
35°	6849.5	4224.8	1396.3	1213.4	1183.2	1050.2	1057.7	1075.8	1075.8	1050.2	1041.1
37.5°	7015.6	3925.5	1310.0	1139.3	1035.0	986.7	1006.4	1030.6	1030.6	1012.4	1004.8
40°	7192.4	3634.0	1245.1	1080.3	941.4	942.9	962.5	980.6	988.2	991.2	985.2
42.5°	7352.6	3331.8	1175.5	1016.8	899.1	909.6	918.7	932.3	964.0	985.2	982.1
45°	7446.3	3028.1	1100.0	938.3	870.4	874.8	871.9	896.0	933.8	965.6	965.6
47.5°	7532.5	2778.8	1038.1	859.8	841.7	841.7	832.5	856.7	891.4	929.2	932.3
50°	7614.1	2617.1	994.3	799.3	805.4	800.9	797.8	820.5	867.3	912.7	920.2
52.5°	7697.1	2562.6	954.9	755.5	767.5	761.5	764.6	796.3	849.2	896.0	903.6
55°	7813.4	2597.4	914.2	725.3	731.4	729.9	741.9	778.2	825.0	871.9	874.8
57.5°	7957.1	2724.4	879.4	702.6	696.5	705.6	725.3	760.0	805.4	861.3	865.8
58°	7985.8	2754.5	873.4	696.5	689.0	702.6	722.3	755.5	802.4	861.3	865.8
60°	8029.6	2861.8	858.2	684.5	663.3	687.5	711.8	744.9	796.3	868.8	877.9
62.5°	7818.0	2883.1	853.8	670.9	636.1	666.4	695.1	732.8	790.3	894.5	914.2
65°	7085.1	2665.5	821.9	648.2	613.5	649.8	679.9	723.8	808.4	971.6	980.6
67.5°	5687.5	2213.6	744.9	613.5	587.9	630.1	667.9	723.8	815.9	983.7	989.7
70°	3910.5	1663.6	648.2	575.7	557.6	606.0	663.3	740.4	790.3	930.8	912.7
72.5°	2042.9	1157.5	568.1	531.9	521.2	584.7	707.1	723.8	760.0	868.8	850.7
75°	1029.0	787.2	500.2	482.1	480.5	577.2	791.8	696.5	728.3	817.5	856.7
77.5°	607.5	616.6	445.8	435.2	442.7	563.6	793.3	669.4	692.0	752.5	794.8
80°	415.5	509.2	403.5	400.4	406.5	518.3	731.4	636.1	649.8	711.8	757.0
82.5°	234.3	281.1	353.6	373.2	370.2	424.6	631.6	578.7	595.4	841.7	890.0
85°	113.3	169.3	296.2	349.1	315.8	282.6	513.7	513.7	518.3	602.9	610.4
87.5°	42.3	75.5	199.5	276.5	220.6	169.3	349.1	364.2	405.0	417.1	426.1
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)