

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: P195069

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-7060-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195069  
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-03-D-UNV-AFL-7060-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 20360 lumens  
Efficiency: N/A  
Efficacy: 106.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B2 - U0 - G2

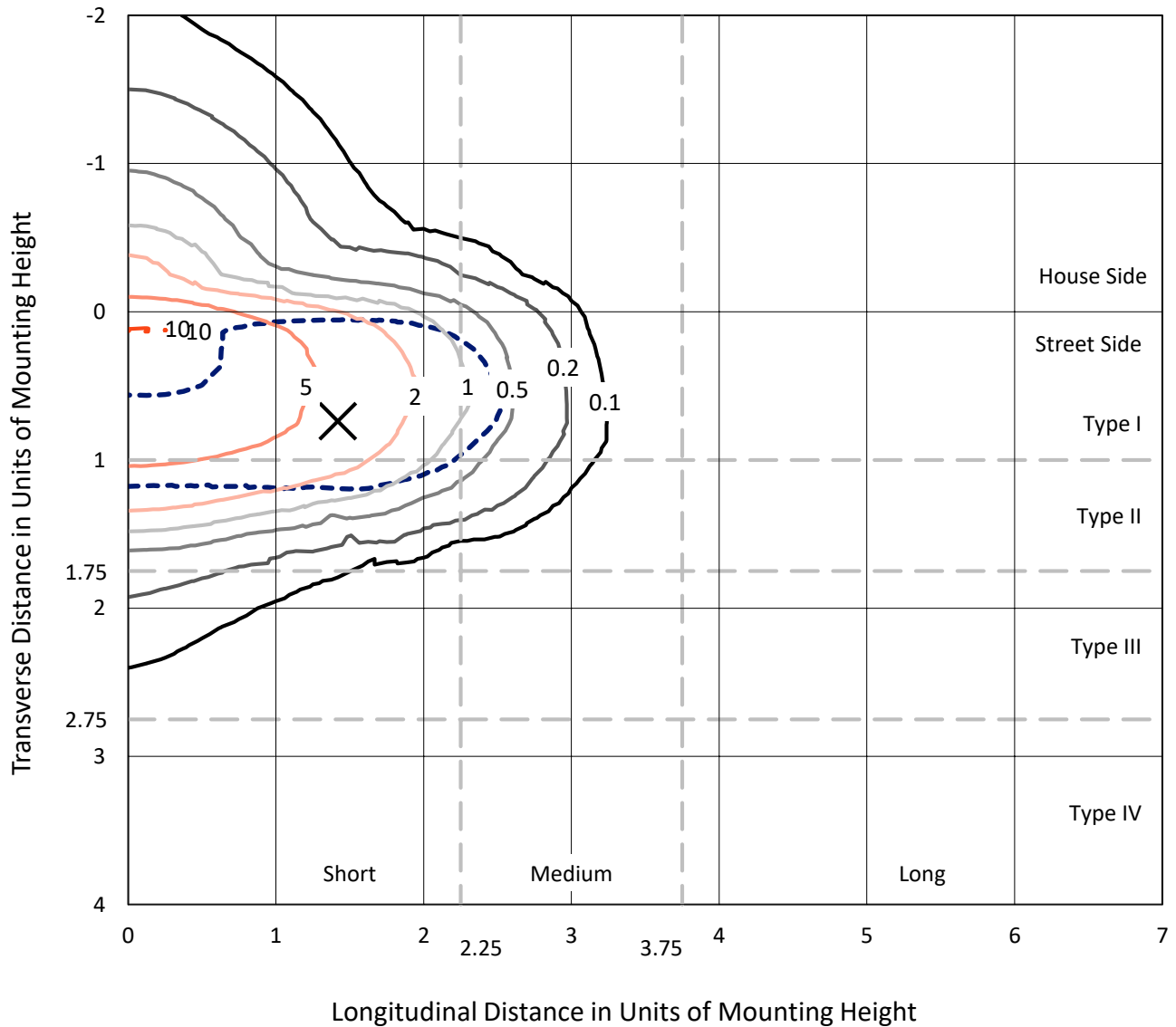
Input Watts (W): 191  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

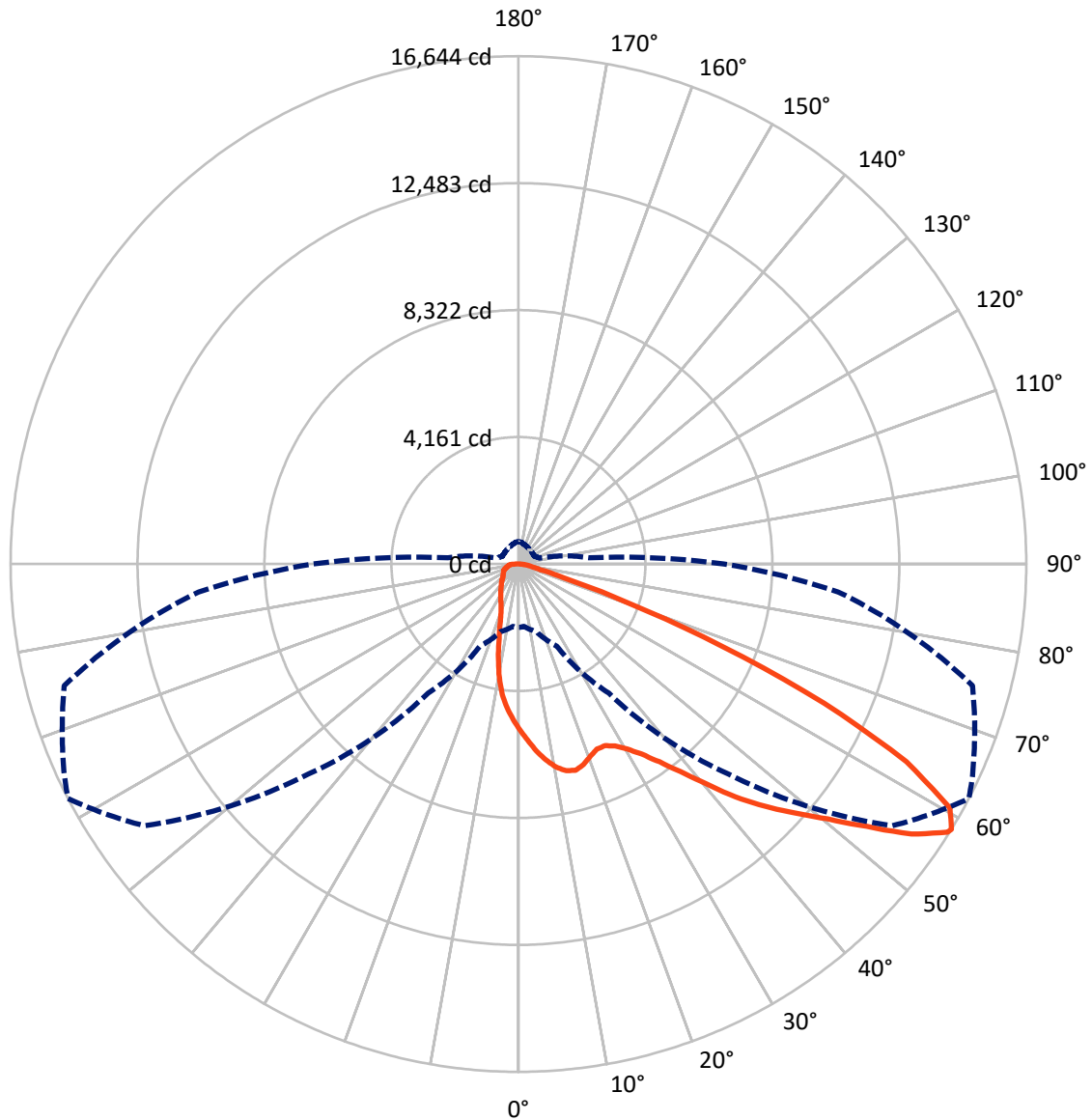
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.2 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



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

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3126.0	0.0	3126.0
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	17234.0	0.0	17234.0
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	20360.0	0.0	20360.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	485.9	2.4
10°-20°	1226.3	6.0
20°-30°	1987.3	9.8
30°-40°	3172.9	15.6
40°-50°	4615.1	22.7
50°-60°	4829.2	23.7
60°-70°	2944.1	14.5
70°-80°	823.3	4.0
80°-90°	276.0	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°	20360.0	100.0
0°-180°	20360.0	100.0



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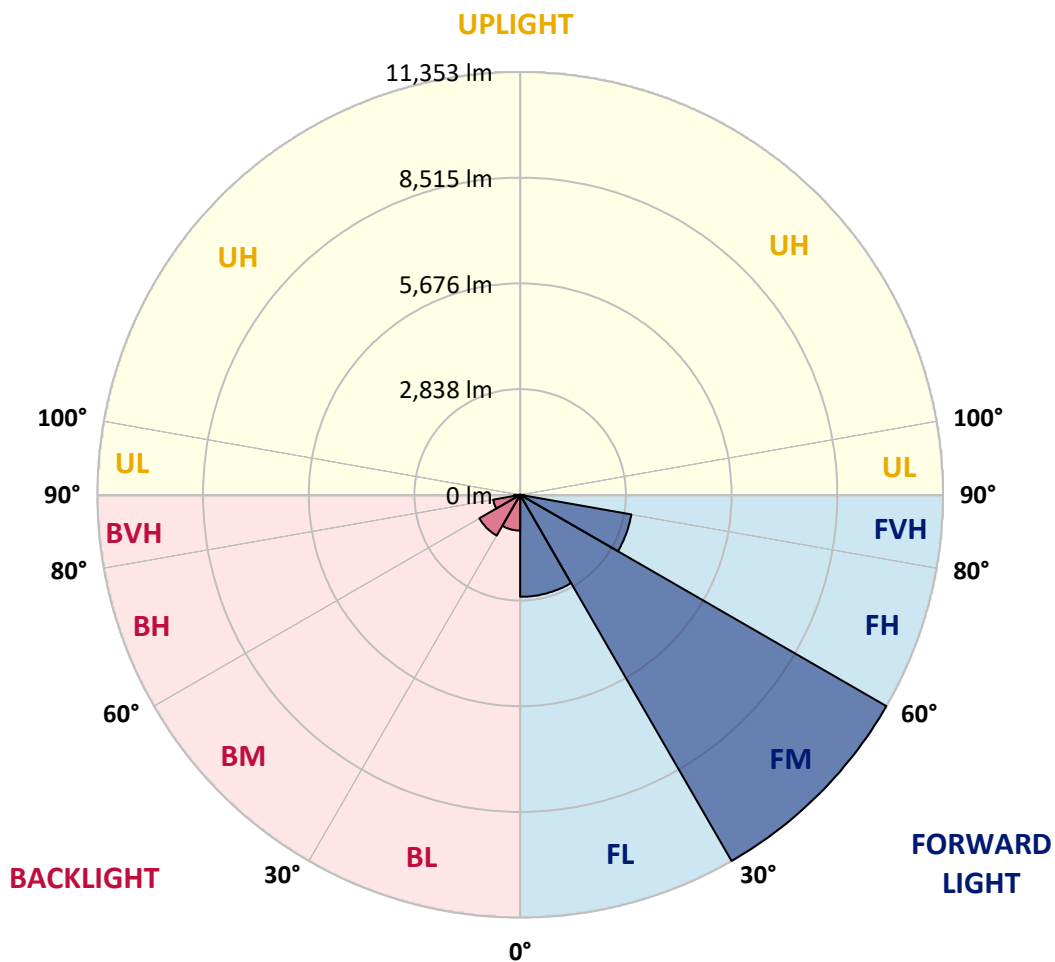
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2738.5	13.5			
FM	(30°-60°)	11353.0	55.8			
FH	(60°-80°)	3031.5	14.9			G2/5000
FVH	(80°-90°)	111.0	0.5			G2/225
BL	(0°-30°)	961.0	4.7	B2/1000		
BM	(30°-60°)	1264.2	6.2	B2/2500		
BH	(60°-80°)	735.9	3.6	B2/1000		G2/1000
BVH	(80°-90°)	165.0	0.8			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0
2.5°	6170.2	6166.4	6114.2	6079.9	6039.1	5945.0	5850.8	5780.8	5745.2	5609.0	5476.7
5°	6680.5	6665.2	6635.9	6599.0	6545.6	6427.2	6278.4	6149.8	6098.9	5857.2	5614.1
7.5°	6410.7	6434.9	6525.2	6627.0	6733.9	6741.5	6635.9	6483.2	6427.2	6104.0	5747.7
10°	5663.8	5653.6	5766.8	5965.3	6317.8	6666.5	6840.8	6765.7	6707.2	6338.2	5881.4
12.5°	5437.3	5434.7	5453.8	5504.7	5726.1	6204.6	6788.6	6951.5	6931.1	6586.3	6023.9
15°	5506.0	5508.5	5507.2	5513.6	5574.7	5802.5	6497.2	7013.8	7077.5	6831.9	6168.9
17.5°	5726.1	5717.2	5689.2	5658.7	5667.6	5749.0	6182.9	6907.0	7097.8	7050.7	6291.1
20°	6065.9	6065.9	5990.8	5905.5	5849.5	5867.4	6051.9	6723.7	7003.7	7236.5	6382.7
22.5°	6492.1	6498.5	6387.8	6232.6	6105.3	6057.0	6126.9	6587.6	6889.1	7408.3	6464.1
25°	7021.5	7020.2	6858.6	6635.9	6434.9	6319.1	6317.8	6593.9	6853.5	7609.4	6549.4
27.5°	7676.8	7617.0	7428.7	7111.8	6828.1	6651.2	6571.0	6754.3	6928.6	7856.2	6663.9
30°	8416.1	8355.0	8108.2	7701.0	7316.7	7058.4	6926.0	7031.7	7157.6	8170.5	6837.0
32.5°	9147.8	9161.8	8871.7	8412.3	7918.6	7554.6	7358.7	7423.6	7511.4	8554.8	7071.1
35°	10219.2	10217.9	9838.7	9264.8	8678.2	8174.3	7926.2	7960.6	8040.7	9096.9	7399.4
37.5°	11018.3	11005.6	10761.3	10253.6	9593.1	8988.7	8629.9	8635.0	8703.7	9777.6	7832.0
40°	11099.7	11097.2	11095.9	11023.4	10571.7	10001.6	9552.4	9459.5	9487.5	10500.4	8291.4
42.5°	10477.5	10570.4	10837.6	11247.4	11373.3	11074.3	10649.3	10441.9	10380.8	11330.1	8777.5
45°	9590.6	9637.7	10105.9	11027.2	11776.7	12082.1	11762.7	11325.0	11220.6	12136.8	9173.2
47.5°	9178.3	9158.0	9429.0	10433.0	11737.3	12883.7	12906.7	12189.0	12012.1	12832.8	9510.4
50°	8294.0	8267.2	8609.5	9558.8	11307.2	13282.0	14081.1	13130.6	12803.6	13494.5	9815.8
52.5°	6531.6	6506.1	6965.5	8188.3	10345.2	13133.1	15071.1	14286.0	13728.7	14132.0	10100.9
55°	4250.0	4252.6	4690.3	5951.3	8371.6	12265.3	15535.6	15620.8	14996.0	14769.5	10331.2
57.5°	2340.1	2318.4	2630.2	3405.1	5759.2	10294.3	15148.7	16582.8	16257.1	15316.7	10497.9
58°	2080.5	2055.0	2295.5	2963.6	5163.7	9738.2	14954.1	16643.9	16418.7	15407.1	10522.0
60°	1482.4	1439.2	1402.3	1670.8	2975.0	7021.5	13656.1	16248.2	16465.7	15587.7	10499.1
62.5°	1249.6	1199.9	1067.6	1057.4	1401.0	3434.4	10799.4	14269.5	14879.0	15171.6	10130.1
65°	1160.5	1110.9	936.5	874.2	950.5	1482.4	6677.9	11018.3	11832.7	13724.8	9201.2
67.5°	1096.9	1038.3	851.3	769.8	785.1	886.9	2833.8	7206.0	8150.2	10702.7	7381.6
70°	1039.6	974.7	783.8	689.7	677.0	674.4	1107.0	3762.7	4672.5	7003.7	4944.8
72.5°	974.7	911.1	724.0	623.5	595.5	547.2	665.5	1555.0	2131.4	3433.1	2266.3
75°	880.5	828.4	657.9	568.8	520.4	444.1	491.2	745.7	918.7	1314.5	1052.3
77.5°	774.9	732.9	590.4	523.0	458.1	362.7	375.4	505.2	567.5	740.6	609.5
80°	548.4	563.7	515.3	460.6	403.4	292.7	288.9	370.3	407.2	497.5	409.7
82.5°	377.9	389.4	419.9	363.9	325.8	227.8	212.5	257.0	276.1	300.3	198.5
85°	269.8	262.1	291.4	260.9	239.2	145.1	136.2	162.9	174.3	183.2	95.4
87.5°	164.1	162.9	168.0	134.9	124.7	73.8	67.4	77.6	82.7	80.2	45.8
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°	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0	5436.0
2.5°	5427.1	5364.7	5228.6	5119.1	5000.8	4910.5	4820.1	4769.2	4713.2	4681.4	4677.6
5°	5486.9	5359.6	5069.5	4799.8	4522.4	4272.9	4028.6	3847.9	3700.3	3616.4	3611.3
7.5°	5553.1	5353.3	4905.4	4438.4	3944.7	3453.5	3019.6	2712.9	2515.7	2424.1	2417.7
10°	5604.0	5326.6	4705.6	3979.0	3196.4	2547.5	2153.0	1972.3	1912.5	1897.3	1894.7
12.5°	5665.0	5307.5	4453.6	3389.9	2443.1	1939.2	1819.6	1808.2	1820.9	1828.5	1829.8
15°	5722.3	5270.6	4113.9	2737.1	1912.5	1733.1	1735.6	1759.8	1785.3	1796.7	1798.0
17.5°	5749.0	5180.2	3667.3	2156.8	1673.3	1640.2	1669.5	1701.3	1724.2	1733.1	1733.1
20°	5749.0	5035.2	3149.4	1747.1	1548.6	1555.0	1590.6	1614.8	1619.9	1612.2	1608.4
22.5°	5724.8	4855.7	2645.5	1524.4	1446.8	1471.0	1499.0	1482.4	1422.6	1376.8	1367.9
25°	5703.2	4643.2	2160.7	1388.3	1357.7	1389.5	1378.1	1264.8	1173.2	1126.1	1118.5
27.5°	5667.6	4386.2	1756.0	1276.3	1271.2	1296.6	1183.4	1074.0	1028.2	1002.7	997.6
30°	5658.7	4107.5	1469.7	1177.0	1185.9	1150.3	1020.5	984.9	974.7	960.7	954.4
32.5°	5687.9	3828.9	1290.3	1095.6	1104.5	987.4	937.8	942.9	941.6	923.8	917.4
35°	5768.1	3557.8	1175.8	1021.8	996.3	884.4	890.7	906.0	906.0	884.4	876.7
37.5°	5908.1	3305.9	1103.2	959.4	871.6	830.9	847.5	867.8	867.8	852.6	846.2
40°	6057.0	3060.3	1048.5	909.8	792.7	794.0	810.6	825.8	832.2	834.7	829.6
42.5°	6191.8	2805.8	990.0	856.4	757.1	766.0	773.7	785.1	811.8	829.6	827.1
45°	6270.7	2550.0	926.4	790.2	732.9	736.8	734.2	754.6	786.4	813.1	813.1
47.5°	6343.3	2340.1	874.2	724.0	708.8	708.8	701.1	721.5	750.8	782.6	785.1
50°	6412.0	2203.9	837.3	673.1	678.2	674.4	671.9	691.0	730.4	768.6	774.9
52.5°	6482.0	2158.1	804.2	636.2	646.4	641.3	643.9	670.6	715.1	754.6	760.9
55°	6579.9	2187.4	769.8	610.8	615.9	614.6	624.8	655.3	694.8	734.2	736.8
57.5°	6700.8	2294.3	740.6	591.7	586.6	594.2	610.8	640.1	678.2	725.3	729.1
58°	6725.0	2319.7	735.5	586.6	580.2	591.7	608.2	636.2	675.7	725.3	729.1
60°	6761.9	2410.1	722.8	576.4	558.6	579.0	599.3	627.3	670.6	731.7	739.3
62.5°	6583.8	2427.9	718.9	565.0	535.7	561.2	585.3	617.1	665.5	753.3	769.8
65°	5966.6	2244.6	692.2	545.9	516.6	547.2	572.6	609.5	680.8	818.2	825.8
67.5°	4789.6	1864.2	627.3	516.6	495.0	530.6	562.4	609.5	687.1	828.4	833.5
70°	3293.1	1401.0	545.9	484.8	469.5	510.3	558.6	623.5	665.5	783.8	768.6
72.5°	1720.4	974.7	478.4	447.9	439.0	492.4	595.5	609.5	640.1	731.7	716.4
75°	866.6	663.0	421.2	405.9	404.6	486.1	666.8	586.6	613.3	688.4	721.5
77.5°	511.5	519.2	375.4	366.5	372.8	474.6	668.0	563.7	582.8	633.7	669.3
80°	349.9	428.8	339.7	337.2	342.3	436.5	615.9	535.7	547.2	599.3	637.5
82.5°	197.2	236.7	297.8	314.3	311.8	357.6	531.9	487.4	501.4	708.8	749.5
85°	95.4	142.5	249.4	293.9	265.9	238.0	432.6	432.6	436.5	507.7	514.1
87.5°	35.6	63.6	168.0	232.9	185.8	142.5	293.9	306.7	341.0	351.2	358.8
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)